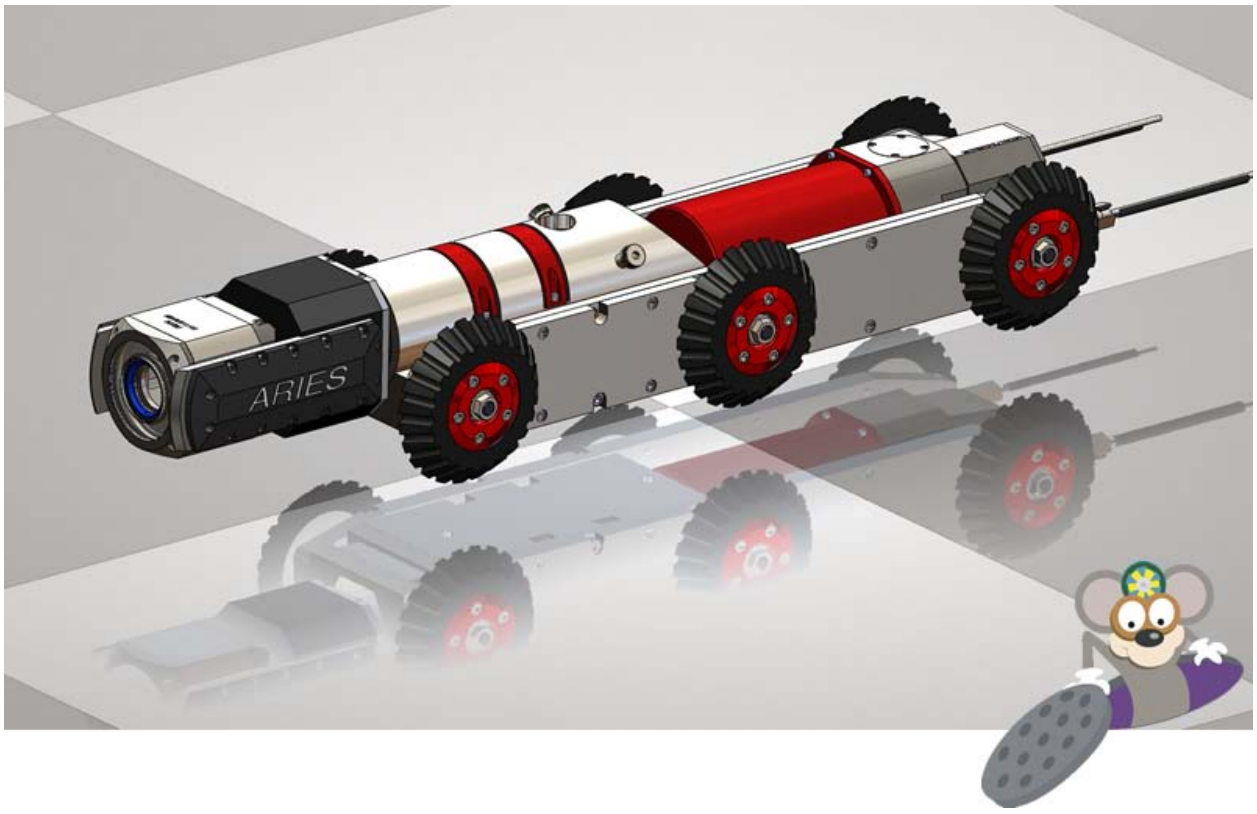
ARIES Industries, Inc.

BADGER (TR3000) CHAIN/RAILS UPGRADE REPLACEMENT MANUAL



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ARIES Industries, Inc.

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Warranty

ARIES Industries, Inc. products are thoroughly inspected before shipment. In the event of any malfunction, contact the nearest ARIES office.

ARIES will replace or repair defective manufactured parts, F.O.B. factory, for one year from the date of shipment. See the full warranty statement for complete details.

Notice

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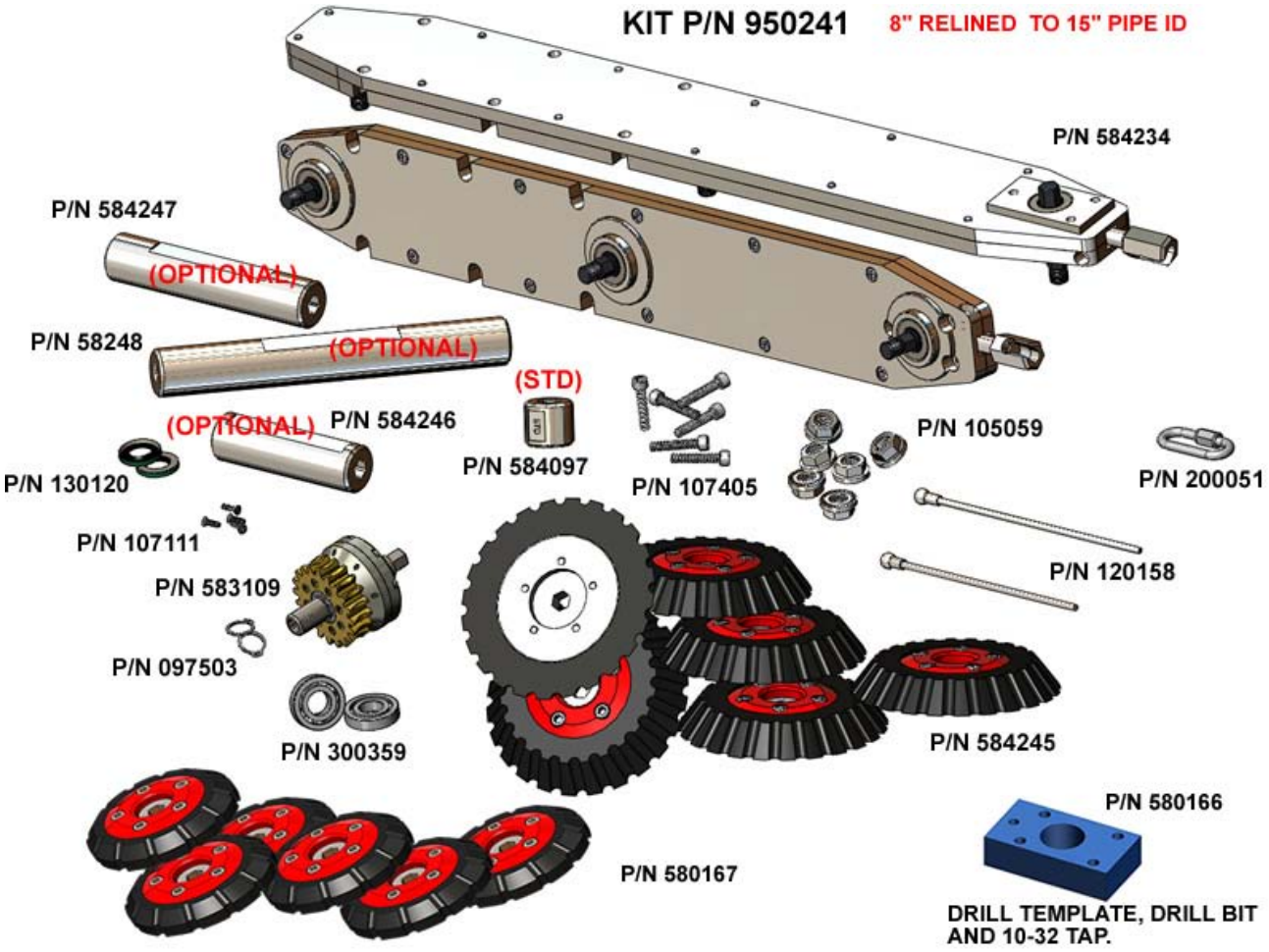
If you have any problems or questions regarding this document, please contact one of the ARIES offices listed on the front cover.

KIT, UPGRADE BADGER TR3000 REPLACEMENT



KIT, UPGRADE BADGER TR3000 REPLACEMENT			
ITEM #	**DESCRIPTION**	**QTY**	**ARIES P/N**
1	SIDE RAIL ASSY, WHEELED TR3001	2	584234
2	TIRE ASSY, 4-3/8IN 65D TR3001	6	584245
3	*KIT SPARE PARTS, TR3001 18-24 (OPTIONAL) P/N 950240		
4	CLUTCH ASSY, TR3001	1	583109
5	PLATE, RIGHT SIDE RAIL TR3001	1	584244
6	TEMPLATE, MOD HSG 584297	1	580166
7	SCREW, 10-32X1 CAP SOC SS	6	107405
8	RING, RETAINING EXTL 1/2	2	097503
9	BEARING, BALL R8/S5K	2	300359
10	SEAL, OIL 4925	2	130120
11	DRILL BIT, SIZE #21	1	940080
12	TAP, 10-32 NF	1	940081
13	BOX, SHIPPING 950241 UPGRADE KIT TR3001 W/FOAM	1	460125
14	TIRE ASSY, 3-3/8 45D REVERSE OFFSET TR3001	6	580167
15	KIT SPARE PARTS, TR3001 18-24 PIPE ID	1	950240
16	MANUAL, TR3000/TR3001 TRACTORS	1	97005
17	KIT SPARE3 PARTS, 8-15 TR3000/TR3001	1	950174
18	SCREW, 4-40X3/8 FL PH SS	4	107111
19	O-RING, #033 VITON 75	1	815502

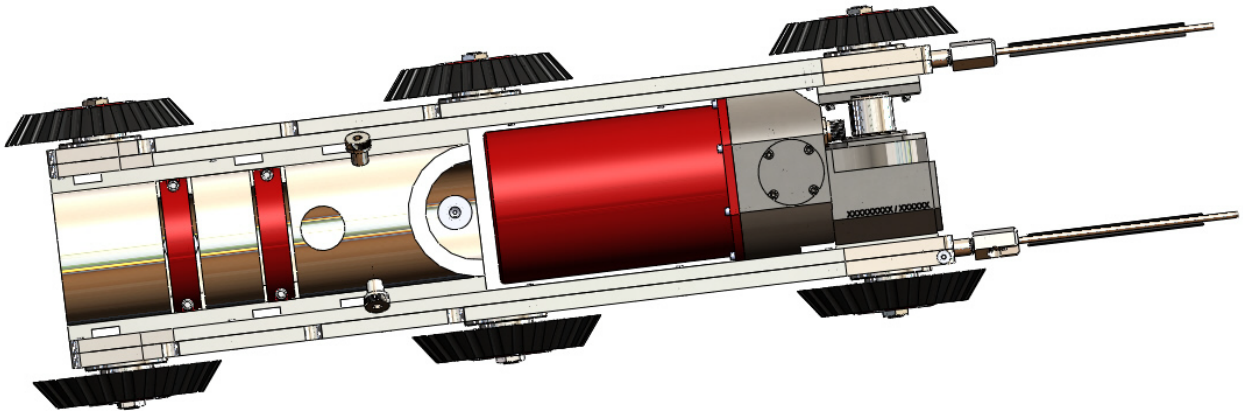
TOOLS NEED

1. Hand drill or drill press can be use (optional).
2. Allen wrench, (hex sizes) 7/35, 3/16, and 9/64.
3. Nut driver 9/16.
4. 14mm chrome socket.
5. Drill bit #21 (Included) P/N 940080.
6. Drill template (included) P/N 580166.
7. Tap 10-32 NF (included) P/N 940081.
8. Small plastic hammer or soft mallet.
9. Pry bar or seal remover.
10. Clean work surface.
11. Rags
12. Compressed air (optional).

DISASSEMBLY OF TRANSMISSION ASSEMBLY

This section explains how to replace a TR3000 Clutch.

1. Photo of unit before any work is done.



2. Remove all 6-wheel assemblies.

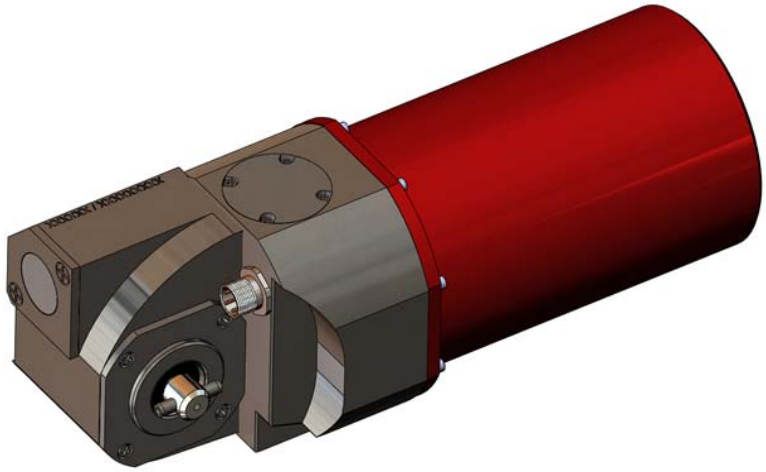
3. Remove right outer side rail (plate). Referrer to service manual Aries part number 970119B 0808.

4. Remove the inner side rail (plate).

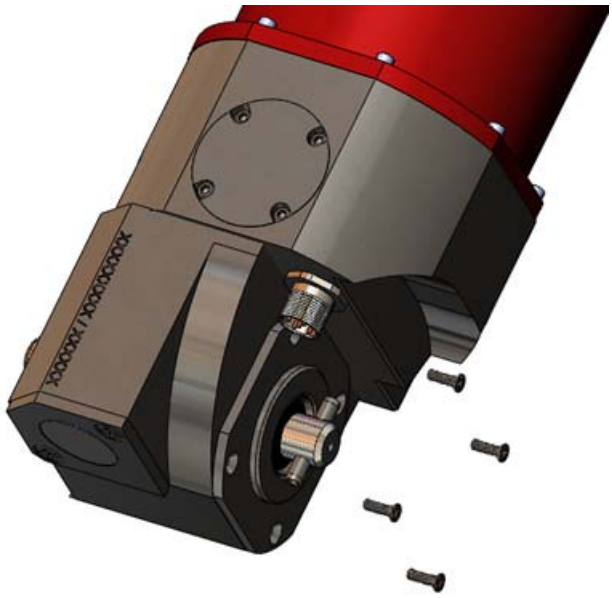
5. Repeat STEPS #3 and #4 for left outer, left inner side rails (plate).

6. Set these parts aside to be **discarded** later.

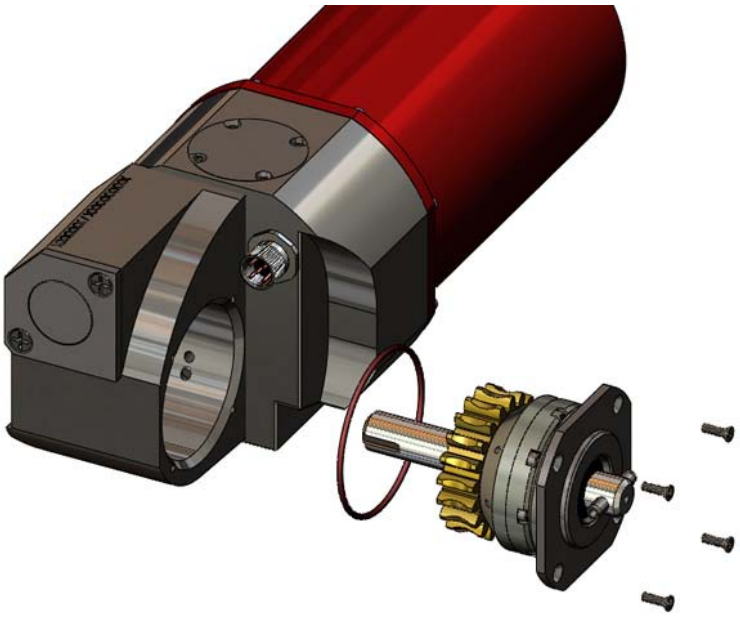
7. Photo of "bare" Motor/Transmission Assembly.



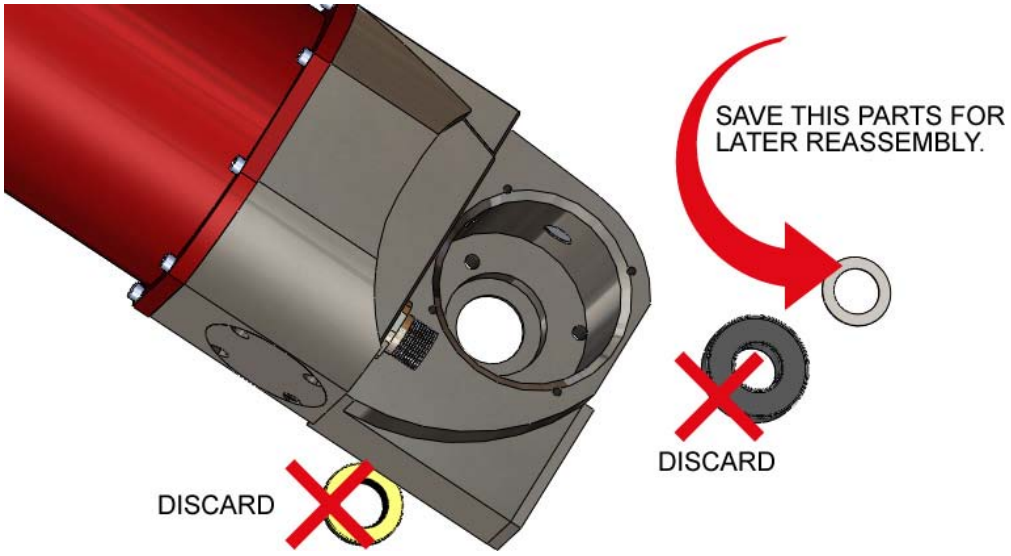
8. Remove 4 screws holding bearing cover housing to motor/transmission assembly.



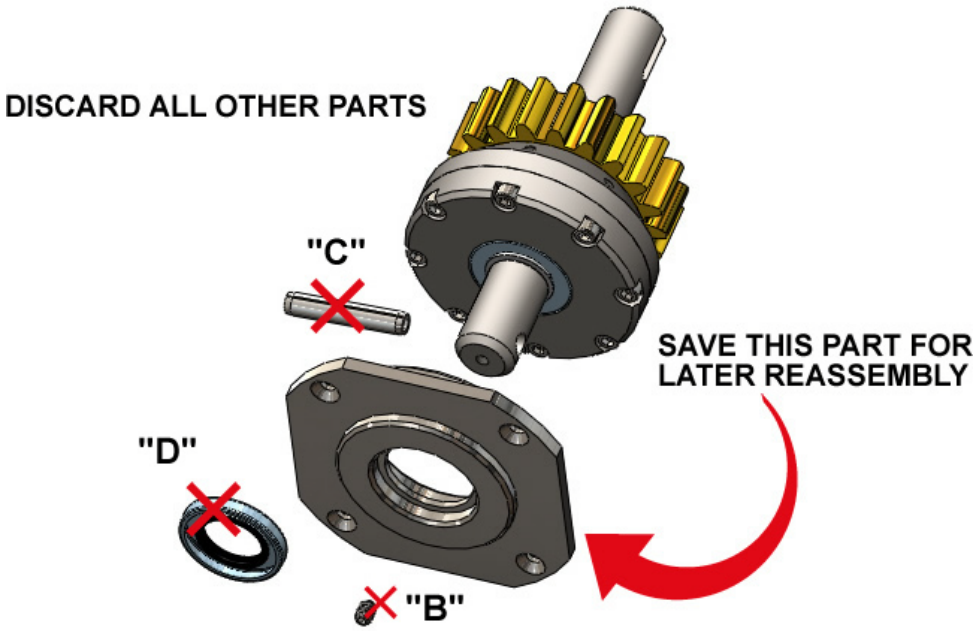
9. Loosen clutch by gently tapping on the shaft on the left end of the clutch shaft with a plastic hammer. After sufficiently loose, remove bearing cover housing / clutch combination from motor/transmission assembly.



10. Remove ball bearing. Use long nose pliers for ease of removal. Dislodge oil seal with a suitable drift tool and remove.



11. Loosen setscrew “B”. This will allow spring pin “C” to become loose for easy removal. Dislodge oil seal “D” with a suitable drift tool and remove. Save transmission cover for later it will be needed for reassembly.

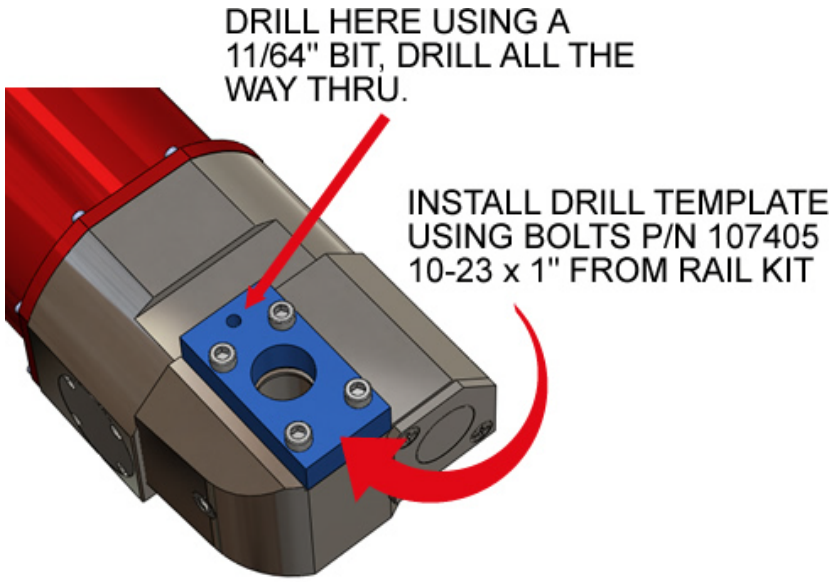


DISCLAIMER

Although the method used in this explanation is recommended to disassemble the transmission, other perfectly acceptable procedures may accomplish the same result.

12. A drill template P/N 580166 is supplied with upgrade kit (950241). A new hole must be drilled and tapped to receive new rail on left hand side transmission housing.

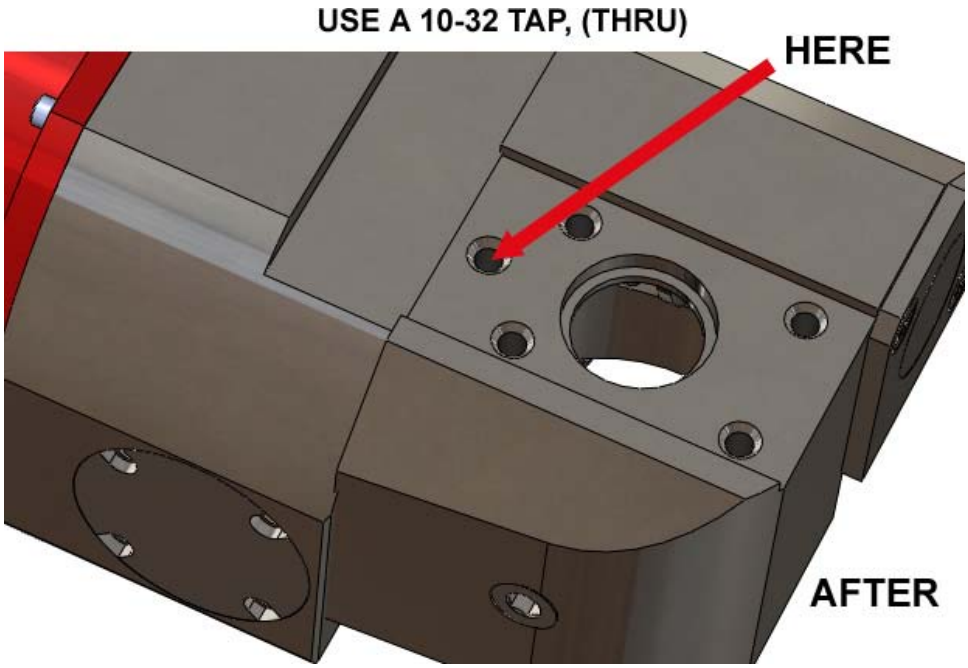
13. Bolt drill template to left side transmission housing as shown in photo below. **Drill housing using the supplied** 11/64" bit all the way thru.



14. Remove drill template before tapping new hole.

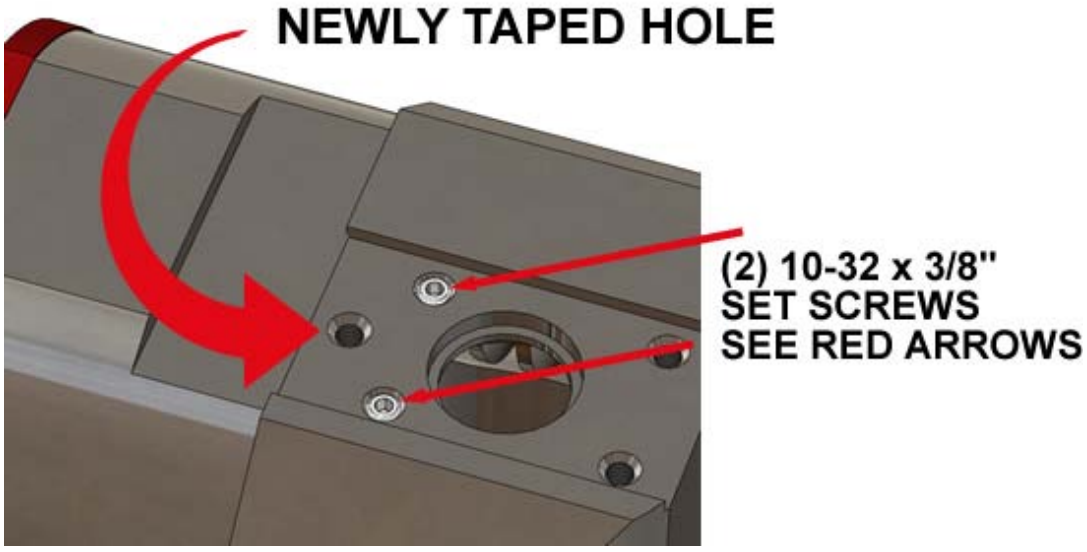
15. Tap new hole with a 10-32 tap. Be sure to use cutting oil when tapping

16. After tapping use a clean rag or compressed air to clean transmission/housing.

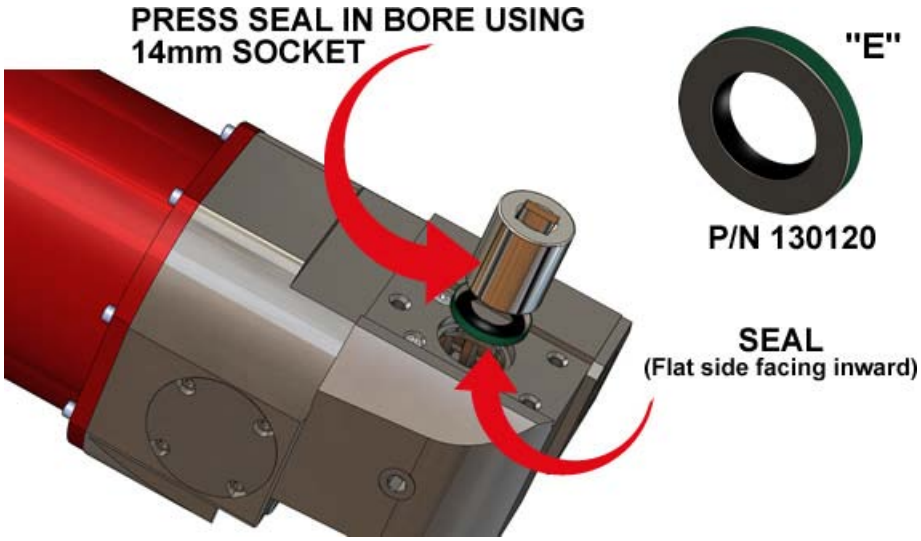


ASSEMBLY OF TRANSMISSION / HOUSING

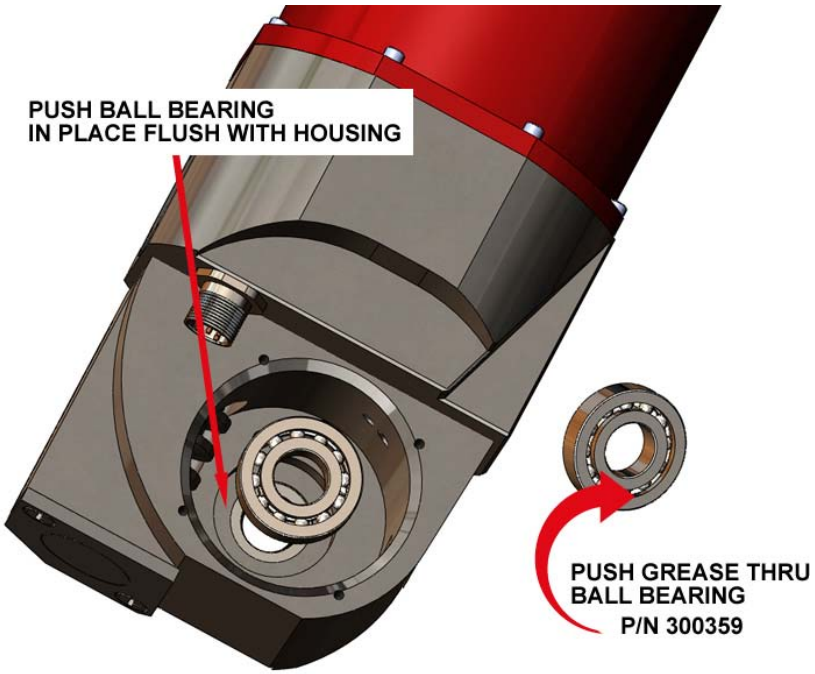
1. Install 2 small 10-32x3/8” set screws located at red arrows to seal unused rail holes. Setscrews MUST use (red #262) loctite. Seat setscrews flush or just below surface.



2. Coat the outside diameter of Oil Seal “E” with Loctite 609 and install in Transmission Tractor Housing with flat surface facing the inside of the housing.

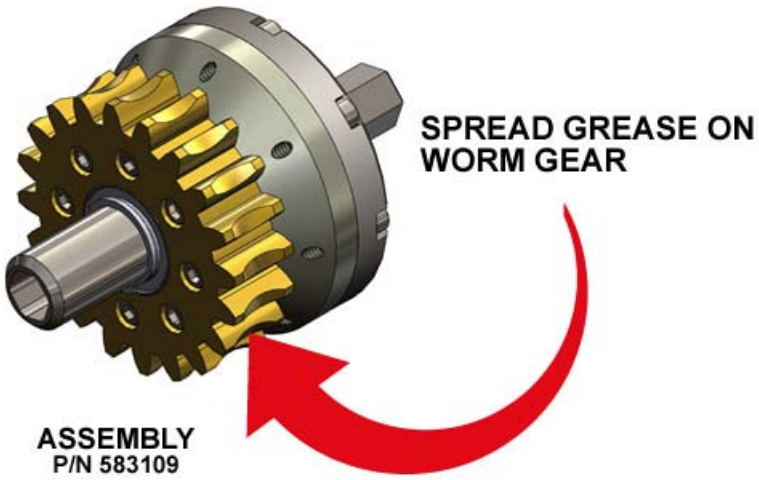


3. Turn the unit over to expose the Clutch Chamber. Apply Mystik® disc wheel bearing grease or equivalent to the ball bearing and push into place. Make sure that the flat surface of the bearing is flush against the Transmission Housing surface.

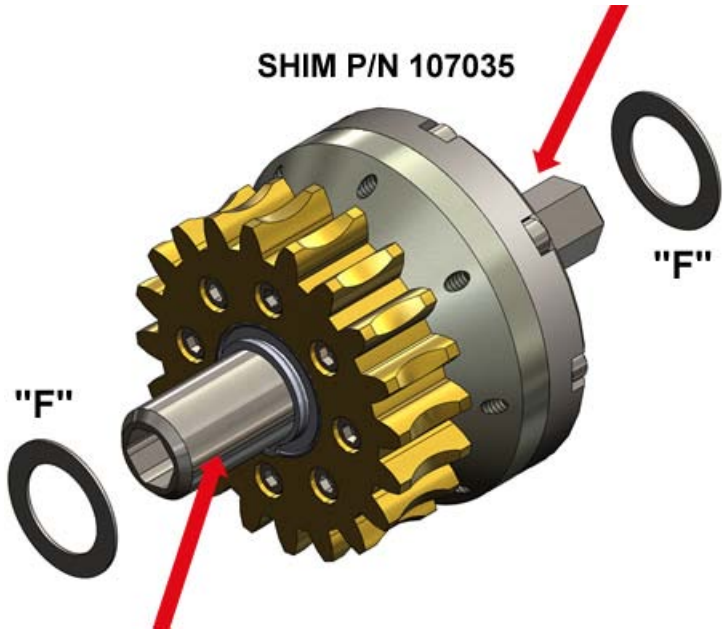


4. Spread Mystilk® disc brake wheel bearing grease or equivalent over Tractor Worm gear filling and covering the teeth to lubricate.

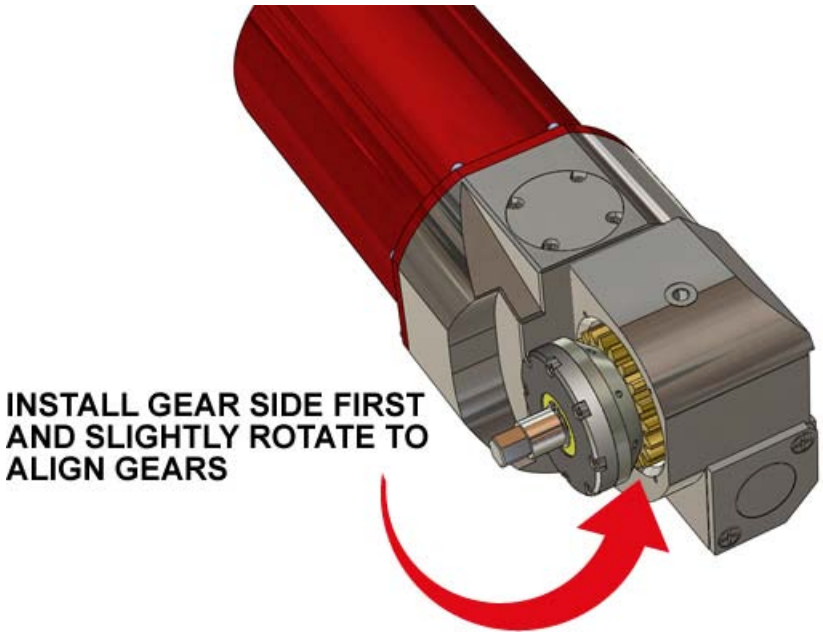
5. Grease the Clutch Worm Gear with Mystilk® disc brake wheel bearing grease or equivalent.



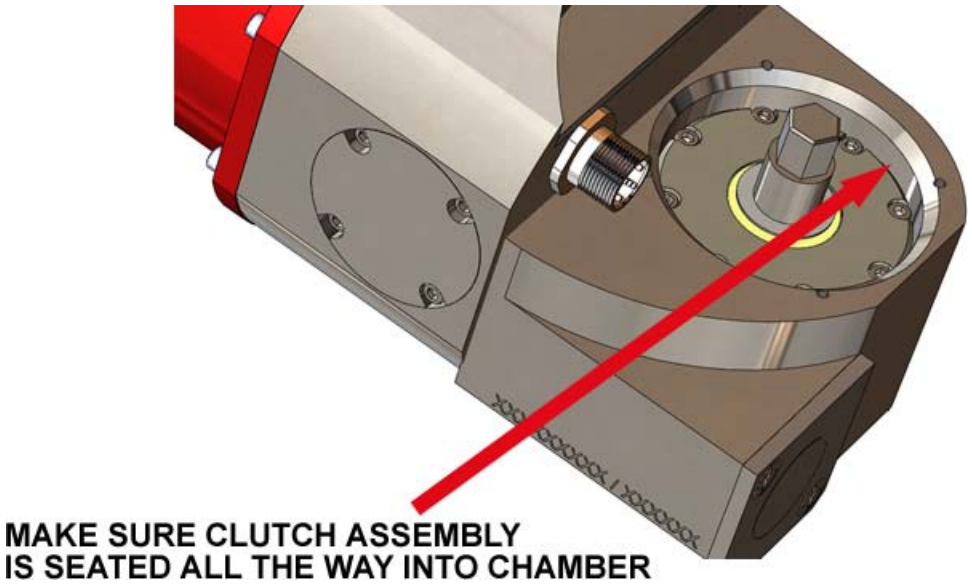
6. Place one shim “F” on each of the clutch shaft (assembly).



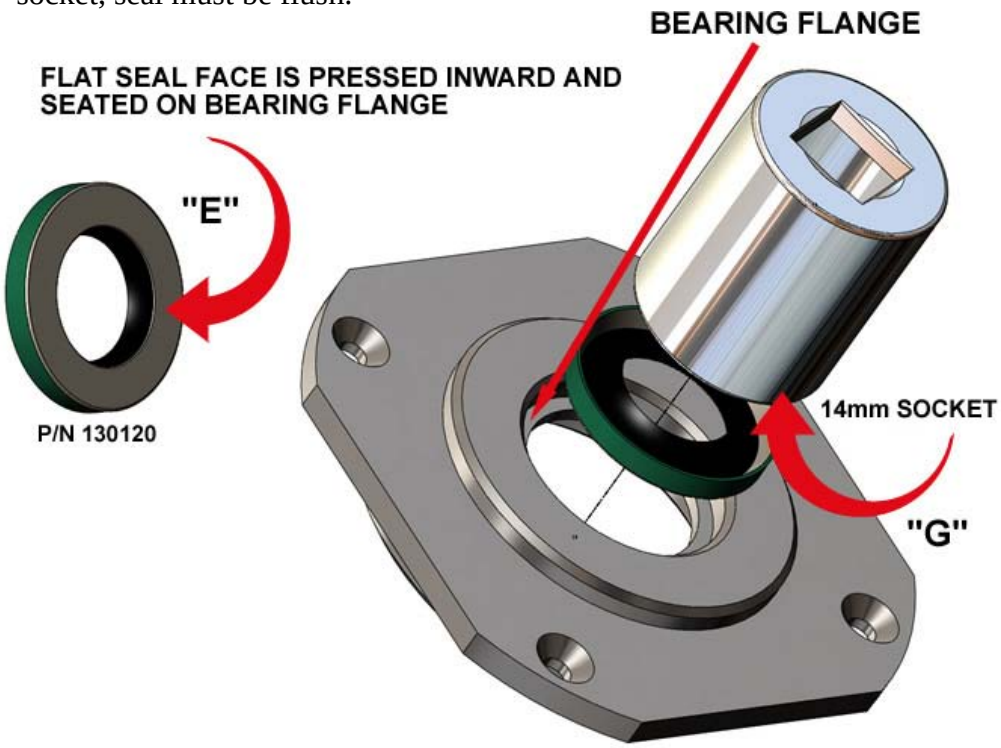
7. Install clutch assembly with shims in the clutch chamber. **Be certain that the gear side of the shaft is installed first**. When installing, the shaft should be rotated slightly to align gear teeth.



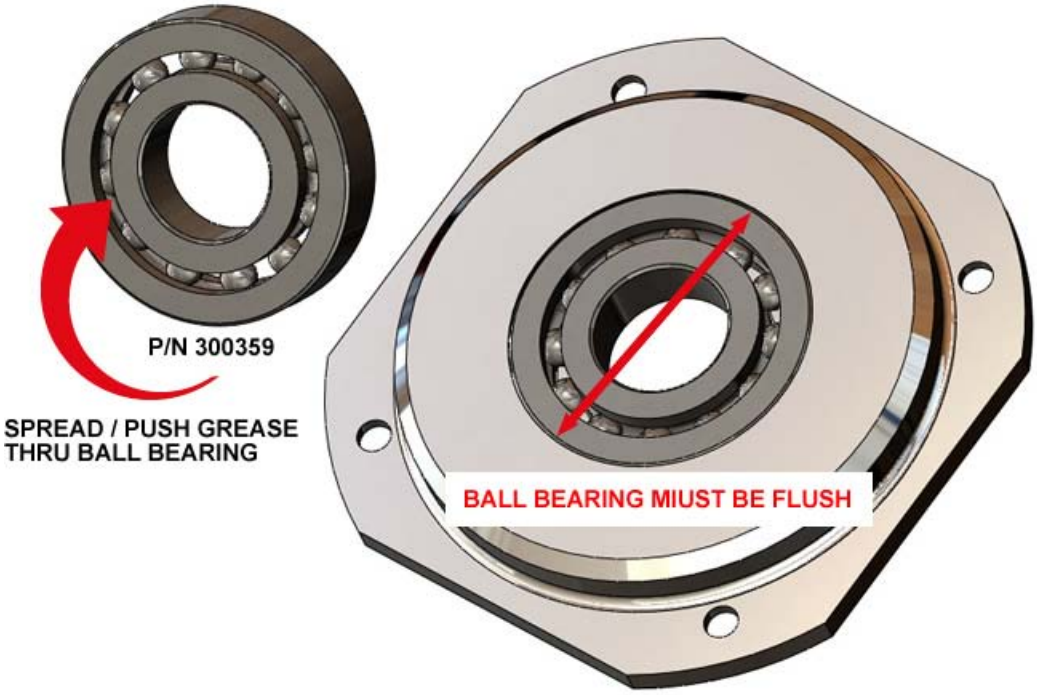
8. Tap shaft gently with a soft mallet if necessary to aid alignment.



9. Apply Loctite 609 to flange of bearing cover housing “G” and to the outside face of the oil seal and remove excess with cotton swab. Press seal “E” in using a 14mm socket, seal must be flush.

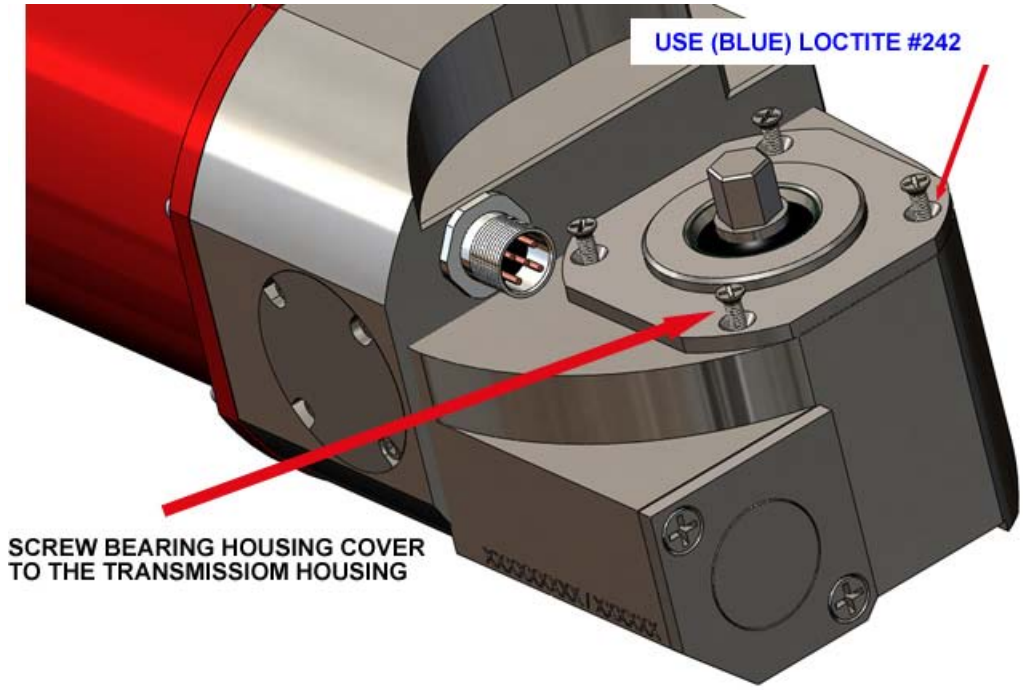


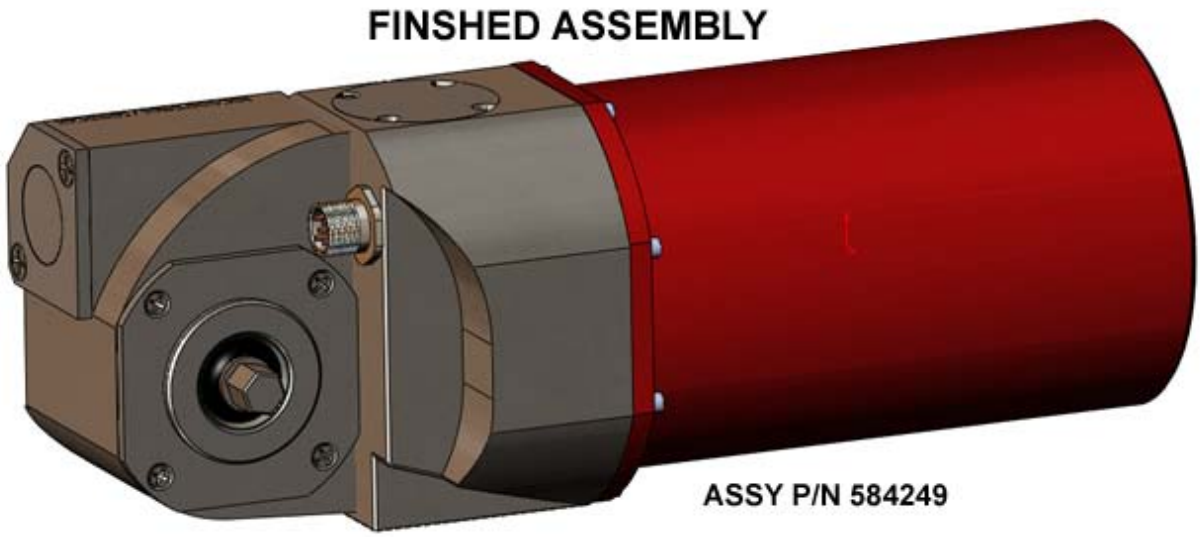
10. Apply Mystik® disc brake wheel bearing grease or equivalent to the ball bearing and push into place in the bearing cover. Make sure that the flat surface of the ball bearing is flush with the housing cover surface.



11. Place O-Ring "H" over bearing boss located inside bearing cover. Spread light film of oil on O-Ring before installing

12. Place the bearing housing cover on to the transmission housing and screw using the pan head screws from the previous step.



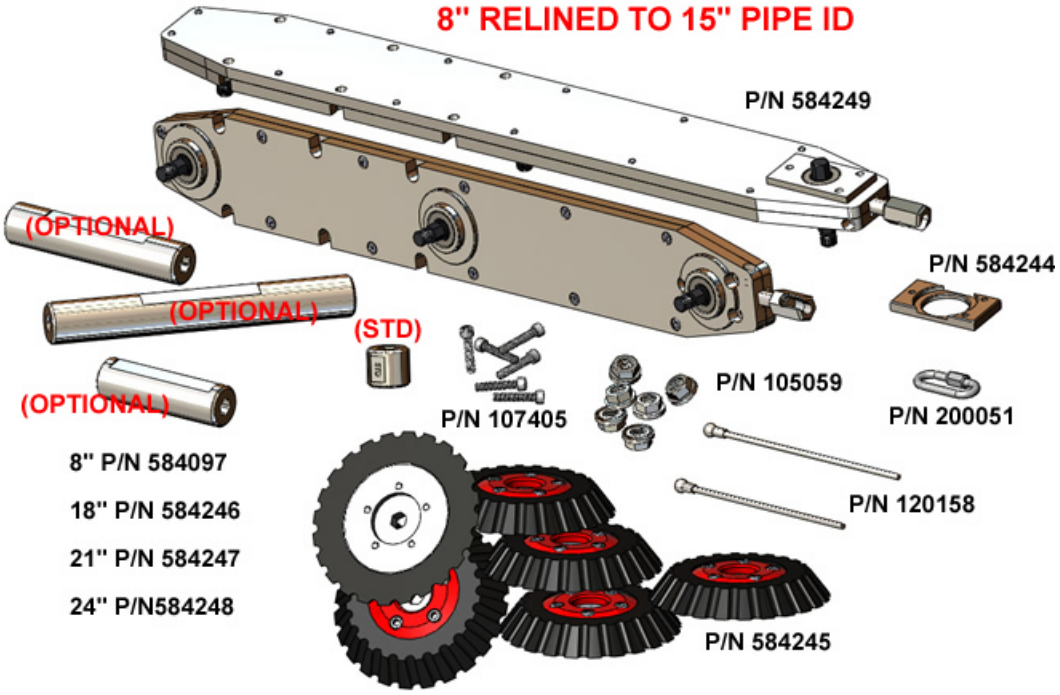


DISCLAIMER

Although the method used in this explanation is recommended to assemble the transmission, other perfectly acceptable procedures may accomplish the same result.

ATTACHING SIDE RAILS TO TRANSMISSION / MOTOR ASSEMBLY

1. Gather the proper transmission coupler, riser, tools and screws for the selected pipe diameter.



NOTES:

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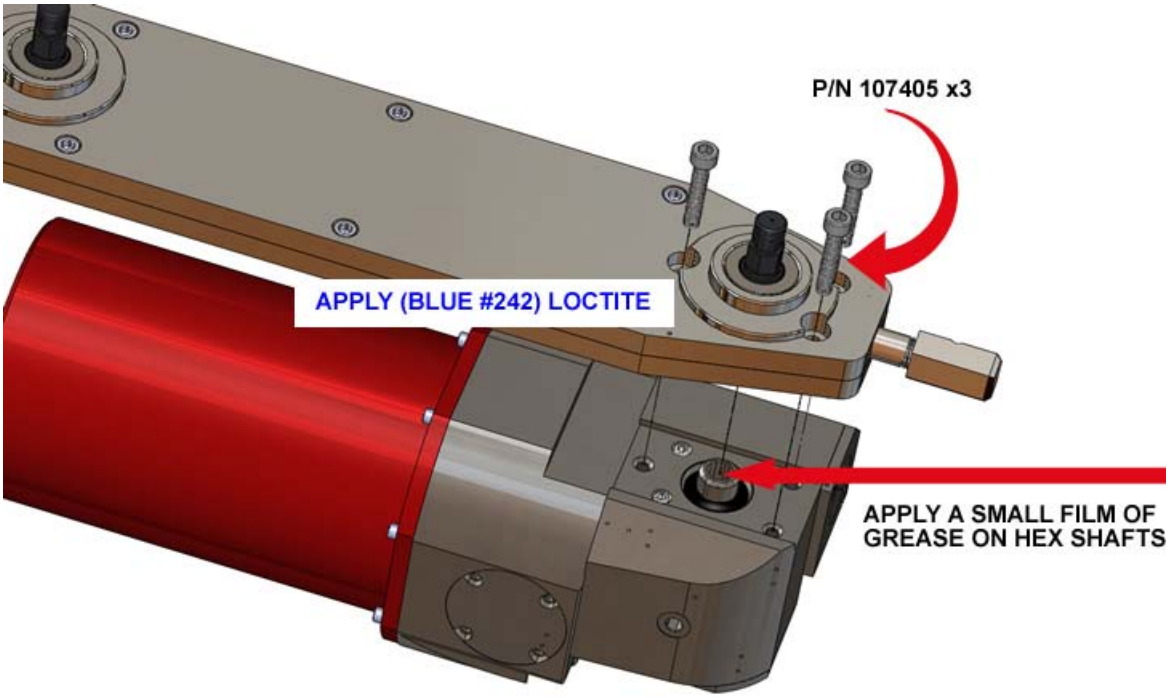
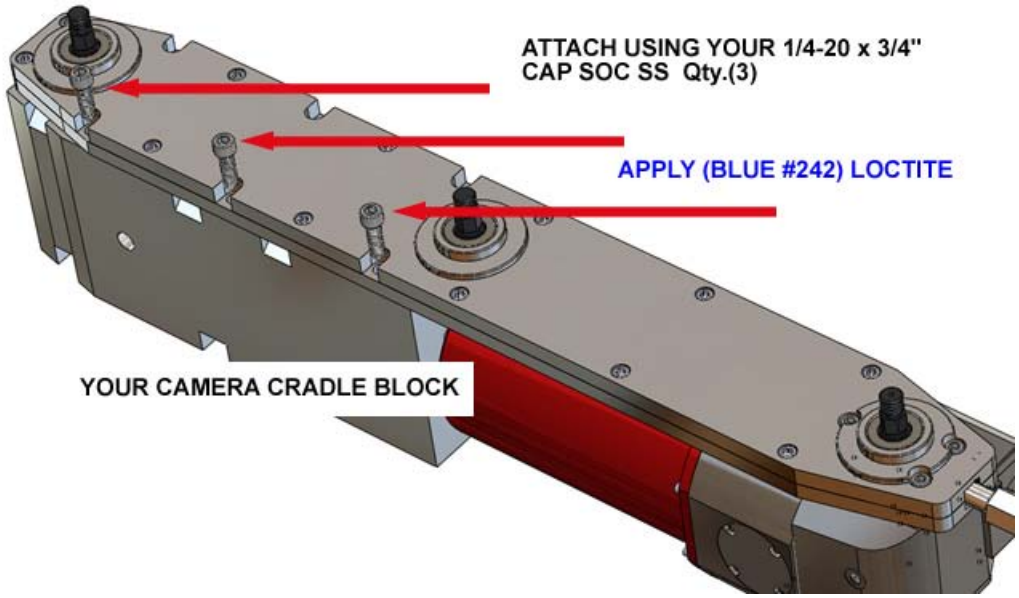
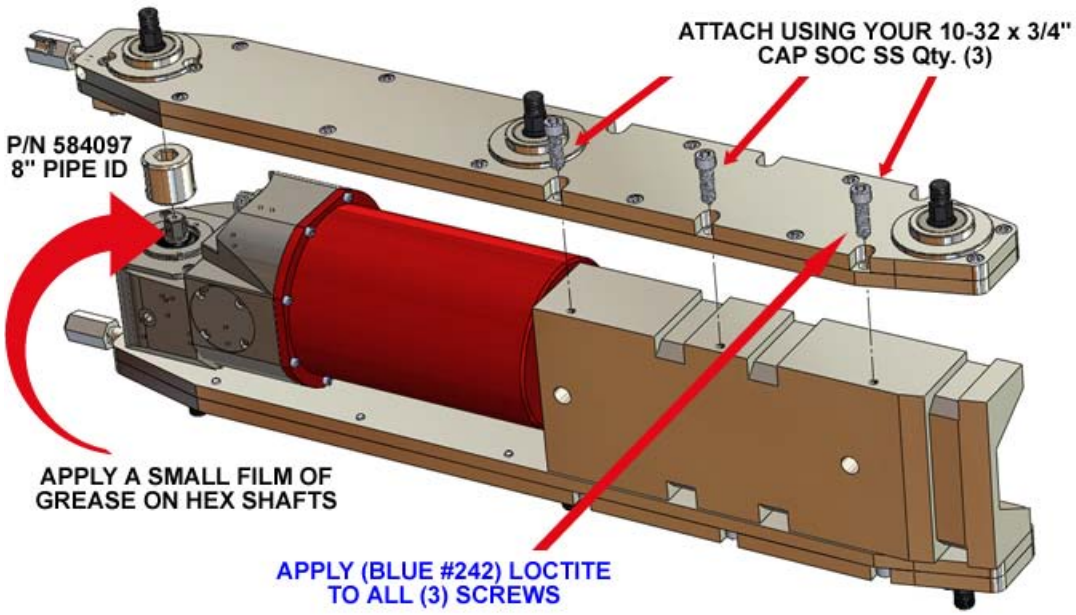
2. Attaching the right side rail "J" to transmission/motor housing. **NOTE: <u>You do not have to disassemble rail halves to install them to housing as in the past.</u>**



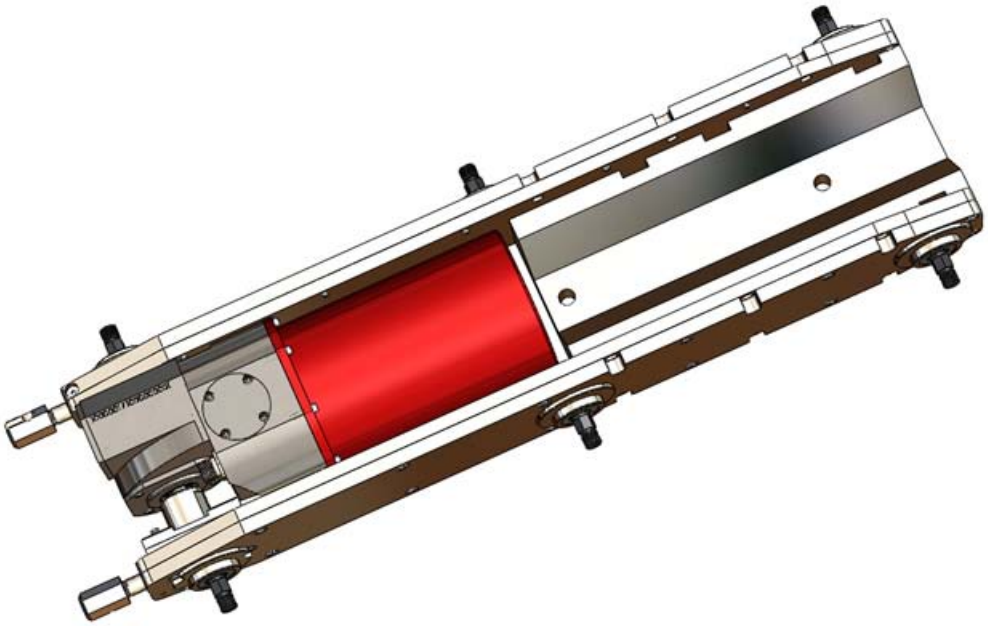
3. Attach ***YOUR*** camera cradle block and your (3 out of 6) ¼-20 x ¾" screws using (blue #242) loctite.



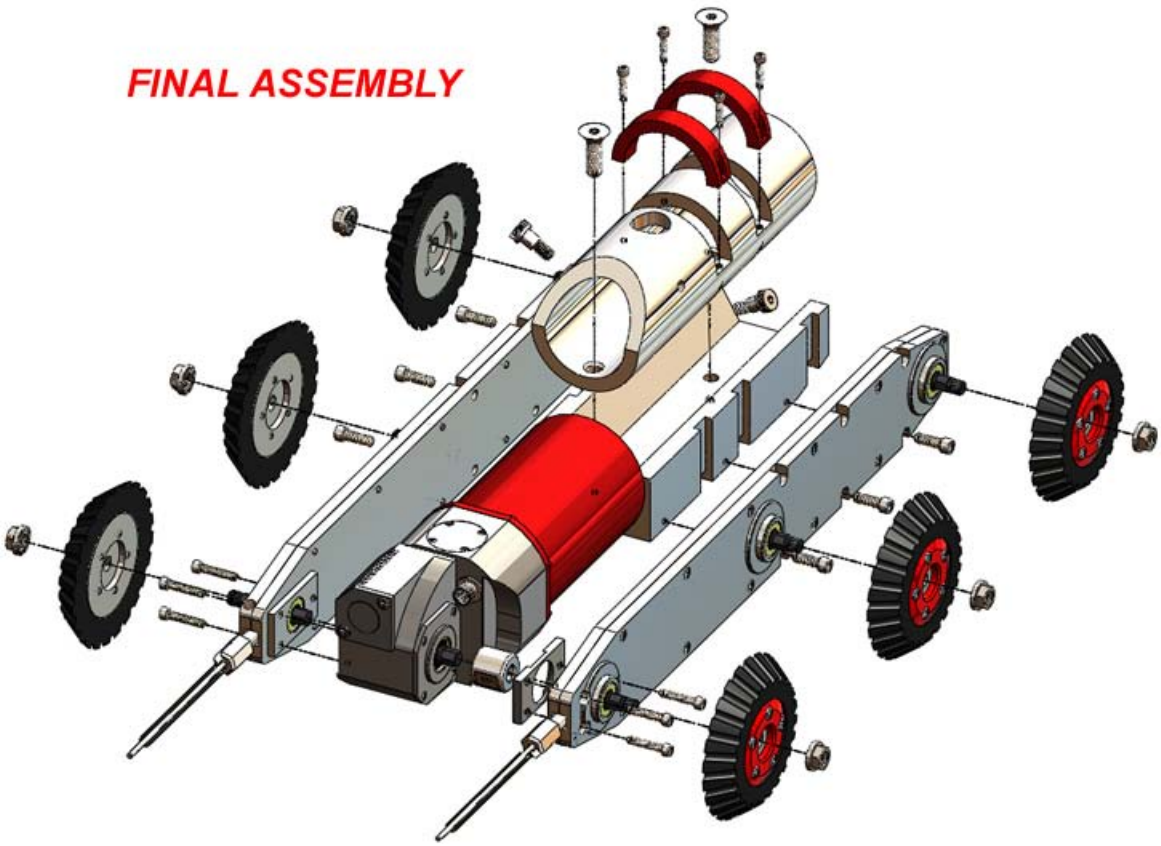
4. Attaching right side rail and coupler, using your (3 out of 6) ¼-20 x ¾" screws and using (blue #242) loctite.


ATTACH USING YOUR 10-32 x 3/4"
CAP SOC SS Qty. (3)
P/N 584097
8" PIPE ID
APPLY A SMALL FILM OF
GREASE ON HEX SHAFTS
APPLY (BLUE #242) LOCTITE
TO ALL (3) SCREWS

5. Transfer remaining parts camera tube, clamps, lift strip. Install new tow cables, wheels. **SEE STEP #6 FOR ASSEMBLY DIAGRAM**.



6. More information in service manual Aries P/N 9750057A .



NOTES:

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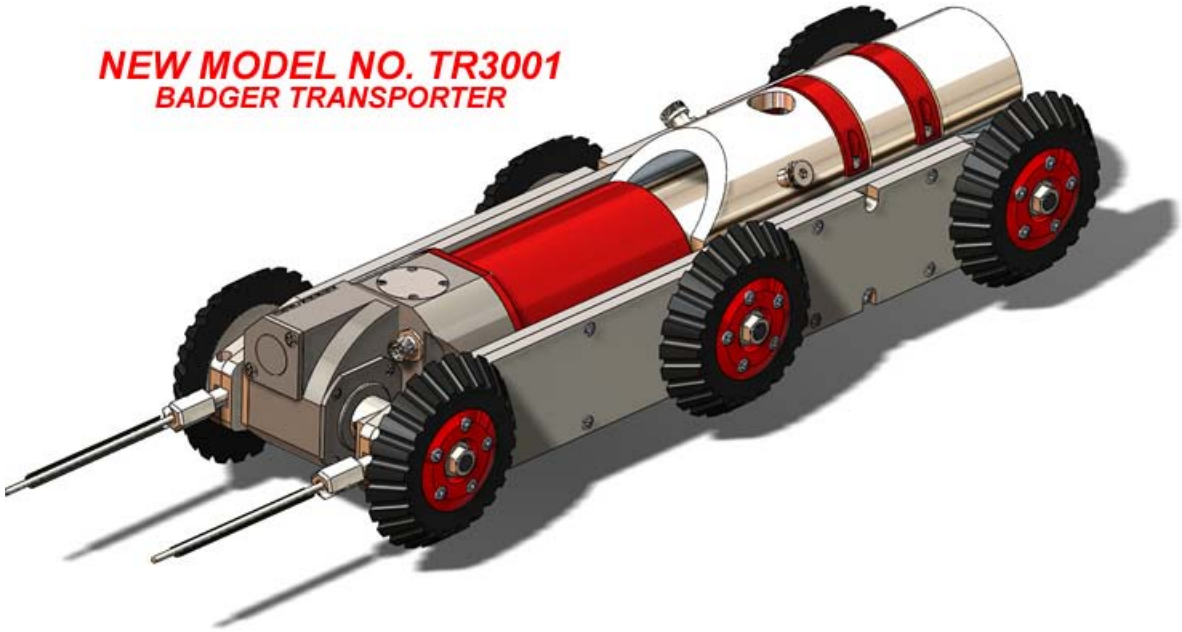
7. **Final steps stamp new MODEL NO. TR3001. This will be necessary when ordering service parts.**



DISCLAIMER

Although the method used in this explanation is recommended to assemble the transporter, other perfectly acceptable procedures may accomplish the same result.

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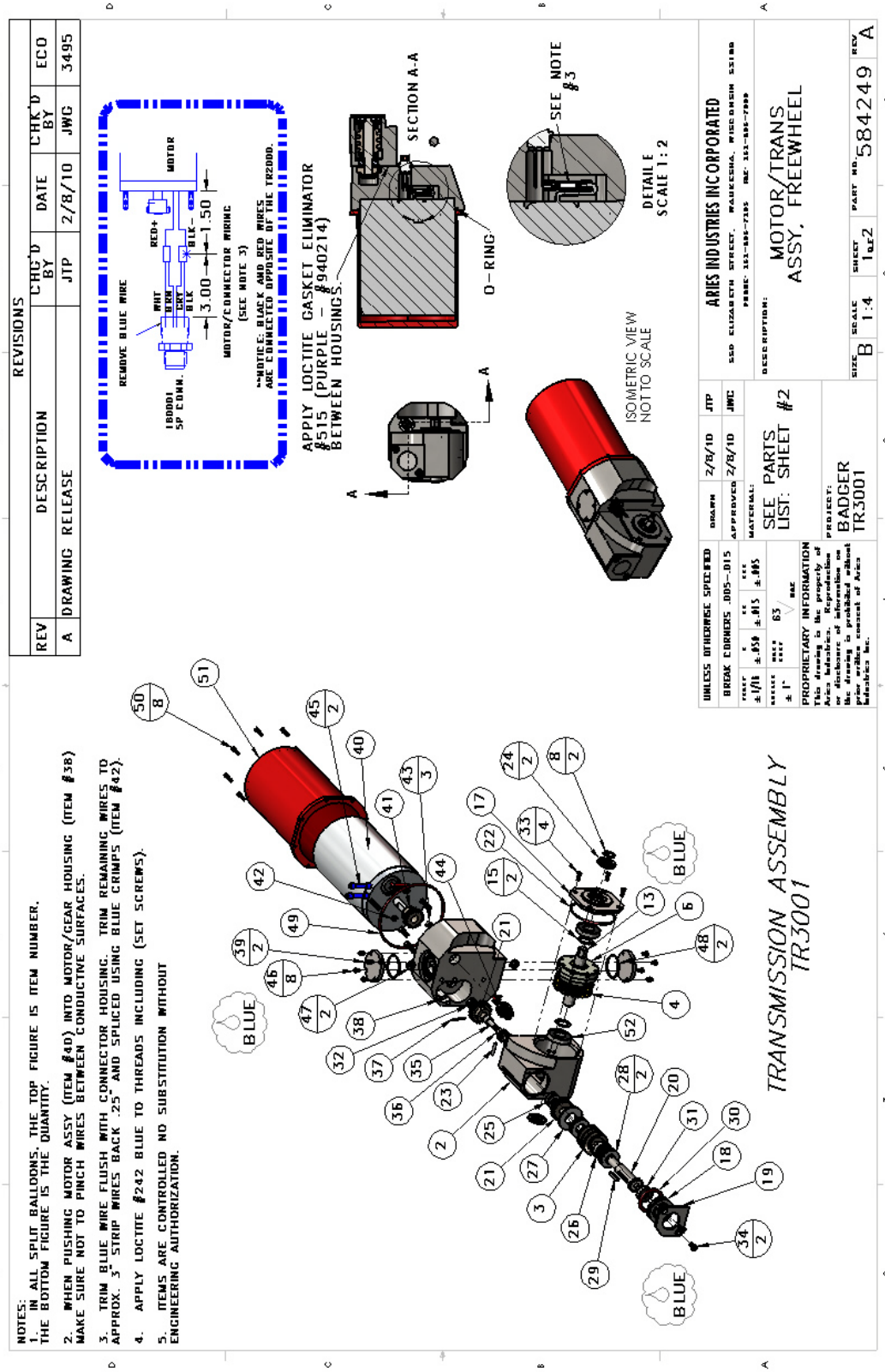
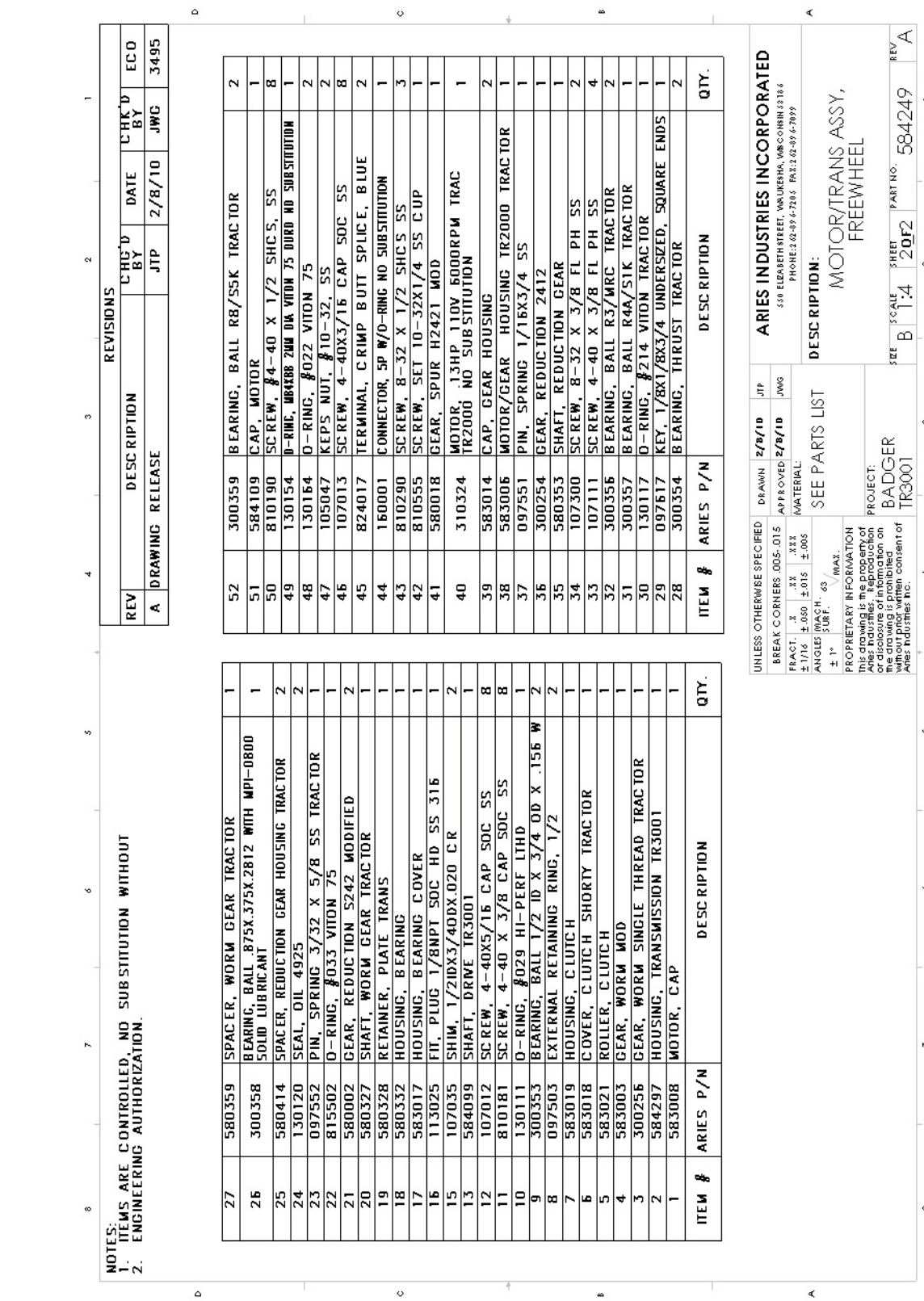
Industries, Inc.

ARIES DRAWINGS


REVISIONS
REV | DESCRIPTION | CHK'D BY | DATE | CHK'D BY | ECO
A | DRAWING RELEASE | JTP | 2/8/10 | JWG | 3495
NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.
2. WHEN PUSHING MOTOR ASSY (ITEM #40) INTO MOTOR/GEAR HOUSING (ITEM #38) MAKE SURE NOT TO PINCH WIRES BETWEEN CONDUCTIVE SURFACES.
3. TRIM BLUE WIRE FLUSH WITH CONNECTOR HOUSING. TRIM REMAINING WIRES TO APPROX. .5" STRIP WIRES BACK .25" AND SPLICED USING BLUE CRIMPS (ITEM #42).
4. APPLY LOCTITE #242 BLUE TO THREADS INCLUDING (SET SCREWS).
5. ITEMS ARE CONTROLLED NO SUBSTITUTION WITHOUT ENGINEERING AUTHORIZATION.
TRANSMISSION ASSEMBLY
TR3001
REMOVE BLUE WIRE
MOTOR/CONNECTOR WIRING
(SEE NOTE 3)
**NOTICE: BLACK AND RED WIRES ARE CONNECTED OPPOSITE OF THE TR2000.
APPLY LOCTITE GASKET ELIMINATOR #515 (PURPLE - #940214) BETWEEN HOUSINGS.
SECTION A-A
O-RING
SEE NOTE #3
DETAILE
SCALE 1:2
ISOMETRIC VIEW
NOTTO SCALE
UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
DRAWN JTP 2/8/10
APPROVED JWG 2/8/10
MATERIAL: SEE PARTS LIST: SHEET #2
PROPRIETARY INFORMATION
PROJECT: BADGER TR3001
ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE 262-896-7205 FAX 262-896-7209
DESCRIPTION: MOTOR/TRANS ASSY, FREEWHEEL
SIZE B | SCALE 1:4 | SHEET 1 of 2 | PART NO. 584249 | REV A
BLUE



NOTES:
1. ITEMS ARE CONTROLLED, NO SUBSTITUTION WITHOUT ENGINEERING AUTHORIZATION.

REVISIONS

REV	DESCRIPTION	CHK'D BY	DATE	CHK'D BY	ECO
A	DRAWING RELEASE	JTP	2/8/10	JWG	3495

ITEM #	ARIES P/N	DESCRIPTION	QTY.
27	580359	SPACER, WORM GEAR TRACTOR	1
26	300358	BEARING, BALL .875X.375X.2812 WITH MPI-0800 SOLID LUBRICANT	1
25	580414	SPACER, REDUCTION GEAR HOUSING TRACTOR	2
24	130120	SEAL, OIL 4925	2
23	097552	PIN, SPRING 3/32 X 5/8 SS TRACTOR	1
22	815502	O-RING, #033 VITON 75	1
21	580002	GEAR, REDUCTION S242 MODIFIED	2
20	580327	SHAFT, WORM GEAR TRACTOR	1
19	580328	RETAINER, PLATE TRANS	1
18	580332	HOUSING, BEARING	1
17	583017	HOUSING, BEARING COVER	1
16	113025	FIT, PLUG 1/8NPT SOC HD SS 316	1
15	107035	SHIM, 1/2IDX3/4ODX.020 CR	2
13	584099	SHAFT, DRIVE TR3001	1
12	107012	SCREW, 4-40X5/16 CAP SOC SS	8
11	810181	SCREW, 4-40 X 3/8 CAP SOC SS	8
10	130111	O-RING, #029 HI-PERF LTHD	1
9	300353	BEARING, BALL 1/2 ID X 3/4 OD X .156 W	2
8	097503	EXTERNAL RETAINING RING, 1/2	2
7	583019	HOUSING, CLUTCH	1
6	583018	COVER, CLUTCH SHORTY TRACTOR	1
5	583021	ROLLER, CLUTCH	1
4	583003	GEAR, WORM MOD	1
3	300256	GEAR, WORM SINGLE THREAD TRACTOR	1
2	584297	HOUSING, TRANSMISSION TR3001	1
1	583008	MOTOR, CAP	1

ITEM #	ARIES P/N	DESCRIPTION	QTY.
52	300359	BEARING, BALL R8/SSK TRACTOR	2
51	584109	CAP, MOTOR	1
50	810190	SCREW, #4-40 X 1/2 SHCS, SS	8
49	130154	O-RING, MS9388 2MM DIA VITON 75 DURO NO SUBSTITUTION	1
48	130164	O-RING, #022 VITON 75	2
47	105047	KEPS NUT, #10-32, SS	2
46	107013	SCREW, 4-40X3/16 CAP SOC SS	8
45	824017	TERMINAL, CRIMP BUTT SPLICE, BLUE	2
44	160001	CONNECTOR, 5P W/O-RING NO SUBSTITUTION	1
43	810290	SCREW, 8-32 X 1/2 SHCS SS	3
42	810555	SCREW, SET 10-32X1/4 SS CUP	1
41	580018	GEAR, SPUR H2421 MOD	1
40	310324	MOTOR, 13HP 110V 6000RPM TRAC TR2000 NO SUBSTITUTION	1
39	583014	CAP, GEAR HOUSING	2
38	583006	MOTOR/GEAR HOUSING TR2000 TRACTOR	1
37	097551	PIN, SPRING 1/16X3/4 SS	1
36	300254	GEAR, REDUCTION 2412	1
35	580353	SHAFT, REDUCTION GEAR	1
34	107300	SCREW, 8-32 X 3/8 FL PH SS	2
33	107111	SCREW, 4-40 X 3/8 FL PH SS	4
32	300356	BEARING, BALL R3/WRC TRACTOR	2
31	300357	BEARING, BALL R4A/S1K TRACTOR	1
30	130117	O-RING, #214 VITON TRACTOR	1
29	097617	KEY, 1/8X1/8X3/4 UNDERSIZED, SQUARE ENDS	1
28	300354	BEARING, THRUST TRACTOR	2

UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
FRACT ± 1/16 | .X ± .060 | .XX ± .015 | .XXX ± .005
ANGLES ± 1° | MACH. SURF. 63 MAX.

PROPRIETARY INFORMATION
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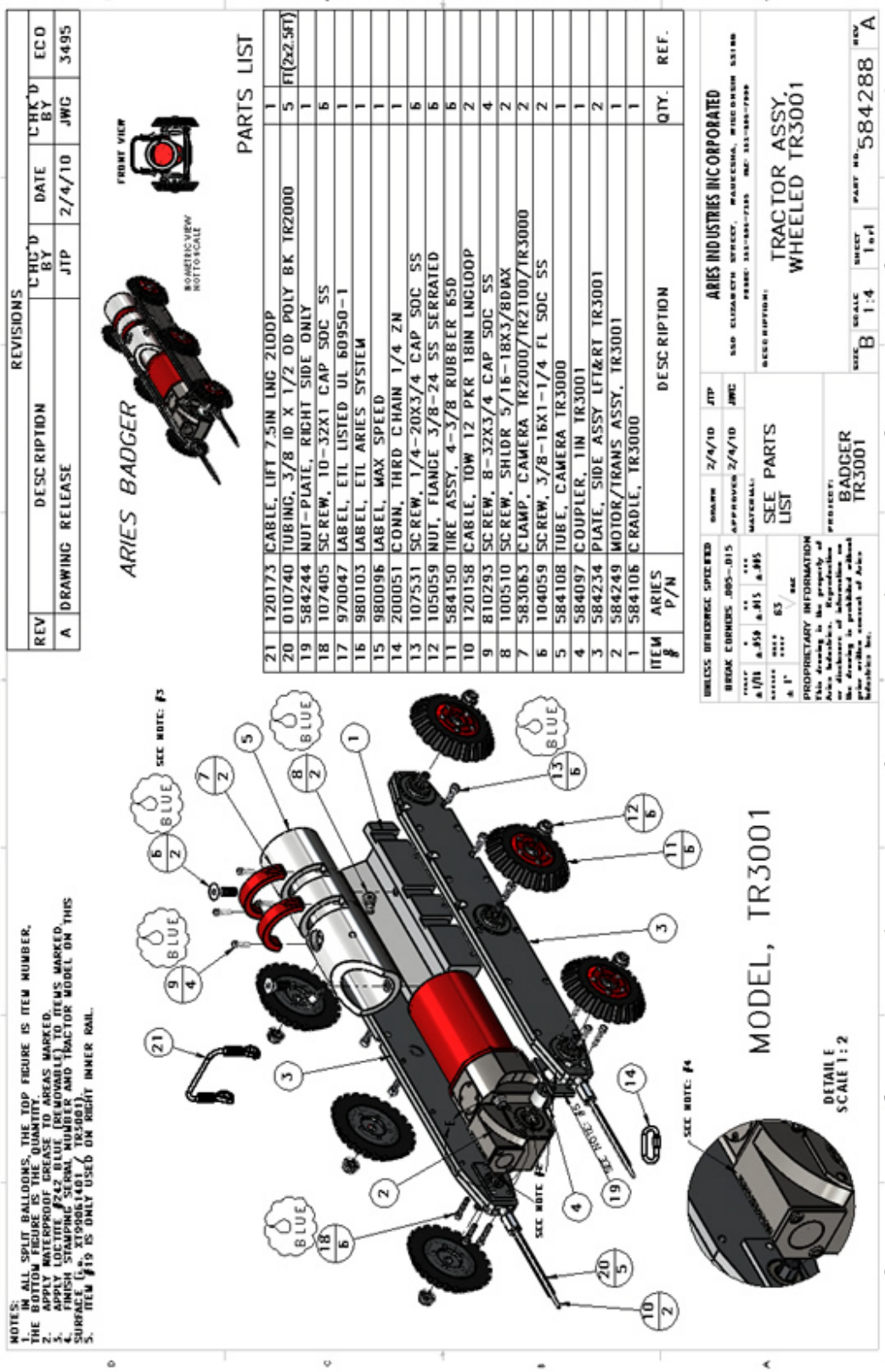
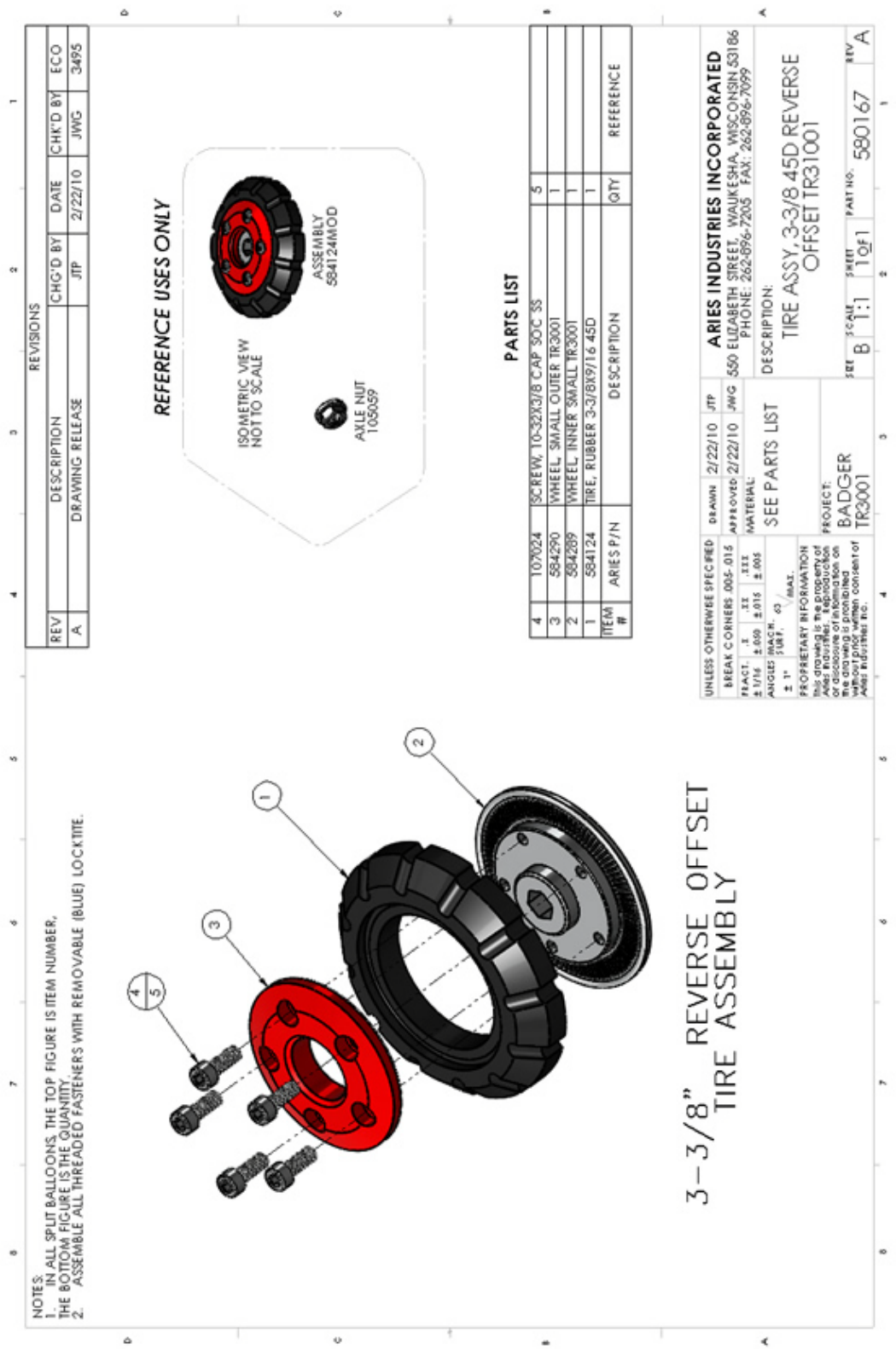
DRAWN 2/8/10 JTP
APPROVED 2/8/10 JWG
MATERIAL: SEE PARTS LIST
PROJECT: BADGER TR3001

ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE 262-549-7205 FAX 262-549-7099

DESCRIPTION: MOTOR/TRANS ASSY, FREEWHEEL

SIZE B | SCALE 1:4 | SHEET 2 OF 2 | PART NO. 584249 | REV A


REVISIONS
REV | DESCRIPTION | CHK'D BY | DATE | CHK'D BY | ECO
A | DRAWING RELEASE | JTP | 2/4/10 | JWG | 3495
ARIES BADGER
ISOMETRIC VIEW NOT TO SCALE
FRONT VIEW
PARTS LIST
ITEM # | ARIES P/N | DESCRIPTION | QTY. | REF.
21 | 120173 | CABLE, LIFT 7.5IN LNG 2LOOP | 1 |
20 | 010740 | TUBING, 3/8 ID X 1/2 OD POLY BK TR2000 | 5 | FT(2x2.5FT)
19 | 584244 | NUT-PLATE, RIGHT SIDE ONLY | 1 |
18 | 107405 | SCREW, 10-32X1 CAP SOC SS | 6 |
17 | 970047 | LABEL, ETL LISTED UL 60950-1 | 1 |
16 | 980103 | LABEL, ETL ARIES SYSTEM | 1 |
15 | 980096 | LABEL, MAX SPEED | 1 |
14 | 200051 | CONN, THRD CHAIN 1/4 ZN | 1 |
13 | 107531 | SCREW, 1/4-20X3/4 CAP SOC SS | 6 |
12 | 105059 | NUT, FLANGE 3/8-24 SS SERRATED | 6 |
11 | 584150 | TIRE ASSY, 4-3/8 RUBBER 650 | 6 |
10 | 120158 | CABLE, TOW 12 PKR 18IN LNGLOOP | 2 |
9 | 810293 | SCREW, 8-32X3/4 CAP SOC SS | 4 |
8 | 100510 | SCREW, SHLDR 5/16-18X3/8DIAX | 2 |
7 | 583063 | CLAMP, CAMERA TR2000/TR2100/TR3000 | 2 |
6 | 104059 | SCREW, 3/8-16X1-1/4 FL SOC SS | 2 |
5 | 584108 | TUBE, CAMERA TR3000 | 1 |
4 | 584097 | COUPLER, 1IN TR3001 | 1 |
3 | 584234 | PLATE, SIDE ASSY LFT&RT TR3001 | 2 |
2 | 584249 | MOTOR/TRANS ASSY, TR3001 | 1 |
1 | 584106 | CRADLE, TR3000 | 1 |
UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE: 262-549-7205 FAX: 262-549-7208
DRAWN 2/4/10 JTP
APPROVED 2/4/10 JWG
MATERIAL: SEE PARTS LIST
DESCRIPTION: TRACTOR ASSY, WHEELED TR3001
PROPRIETARY INFORMATION
PROJECT: BADGER TR3001
SIZE B | SCALE 1:4 | SHEET 1 of 1 | PART NO 584288 | REV A
NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.
2. APPLY LOCTITE #242 BLUE (REMOVABLE) TO ITEMS MARKED.
3. FINISH STAMPING SERIAL NUMBER AND TRACTOR MODEL ON THIS SURFACE (i.e. XT99061401 / TR3001).
4. ITEM #19 IS ONLY USED ON RIGHT INNER RAIL.
MODEL, TR3001
DETAIL E
SCALE 1 : 2
SEE NOTE: #3
SEE NOTE: #2
SEE NOTE: #4
BLUE


REVISIONS
REV | DESCRIPTION | CHG'D BY | DATE | CHK'D BY | ECO
A | DRAWING RELEASE | JTP | 2/22/10 | JWG | 3495
REFERENCE USES ONLY
ISOMETRIC VIEW NOT TO SCALE
ASSEMBLY 584124MOD
AXLE NUT 105059
PARTS LIST
ITEM # | ARIES P/N | DESCRIPTION | QTY | REFERENCE
4 | 107024 | SCREW, 10-32X3/8 CAP SOC SS | 5 |
3 | 584290 | WHEEL, SMALL OUTER TR3001 | 1 |
2 | 584289 | WHEEL, INNER SMALL TR3001 | 1 |
1 | 584124 | TIRE, RUBBER 3-3/8X9/16 45D | 1 |
NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.
2. ASSEMBLE ALL THREADED FASTENERS WITH REMOVABLE (BLUE) LOCKTITE.
3-3/8" REVERSE OFFSET TIRE ASSEMBLY
UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
FRACT. ± 1/16 | X ±.060 | XX ±.015 | XXX ±.005
ANGLES ± 1° | FINISH 63 MAX.
PROPRIETARY INFORMATION
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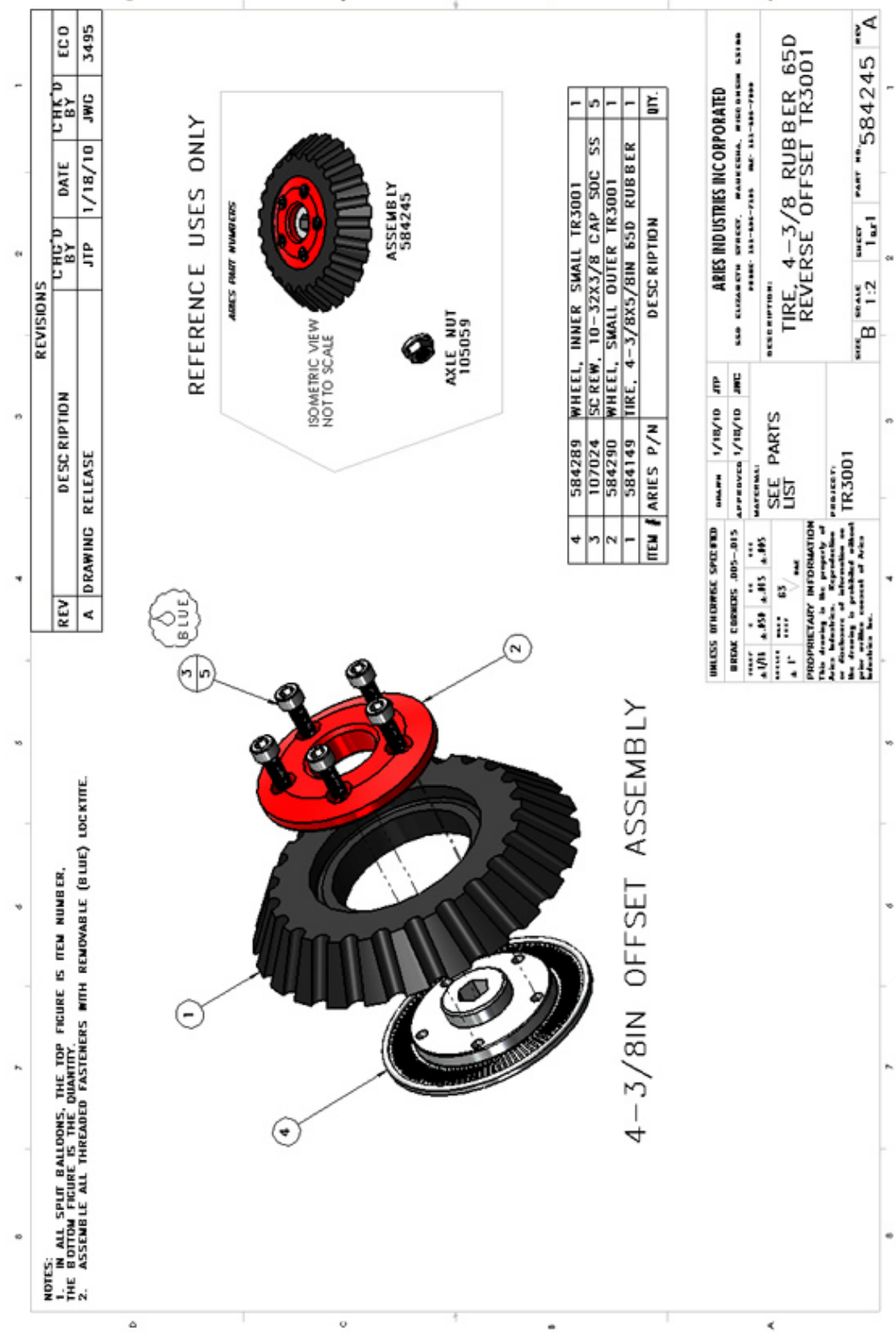
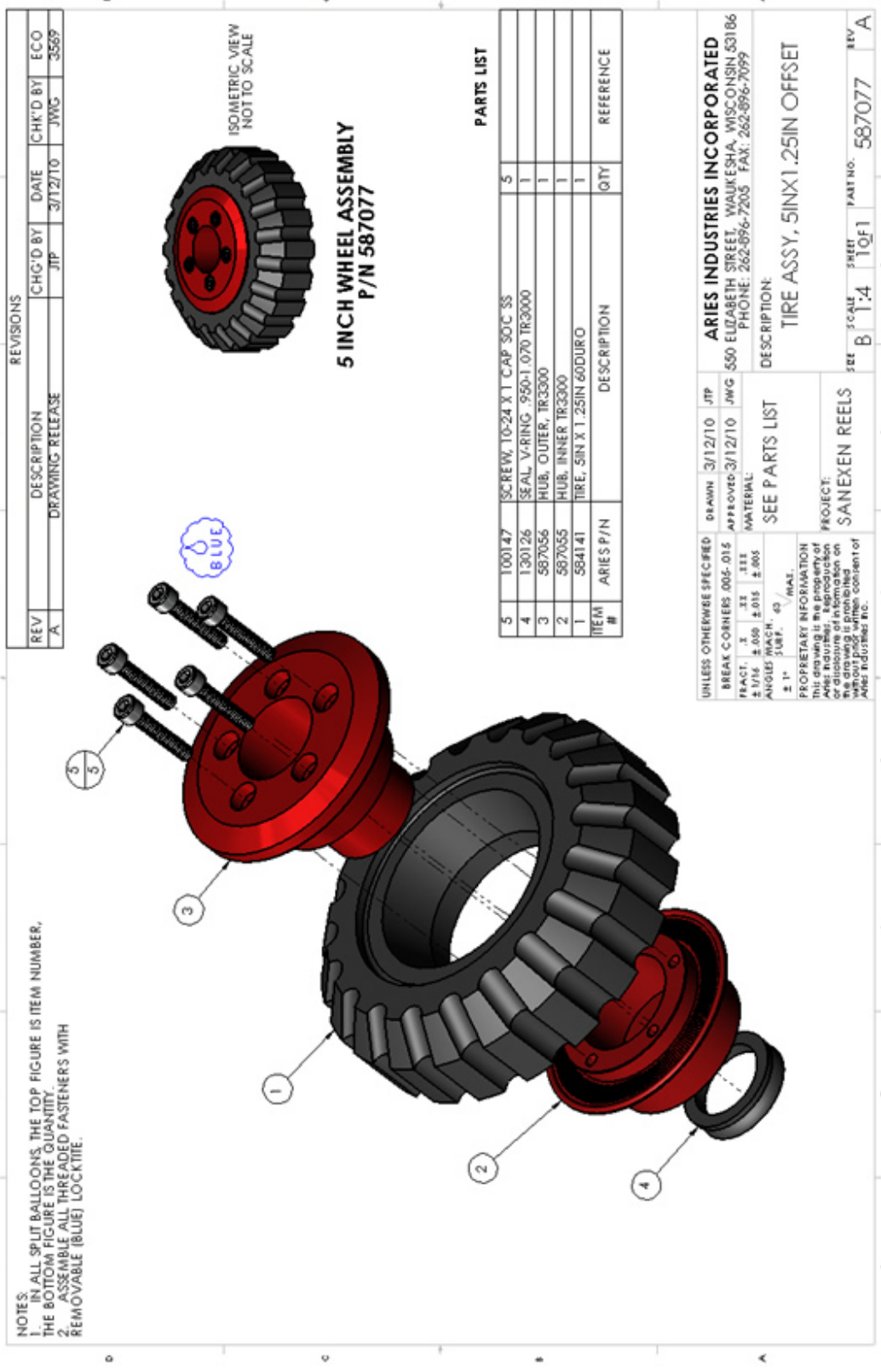
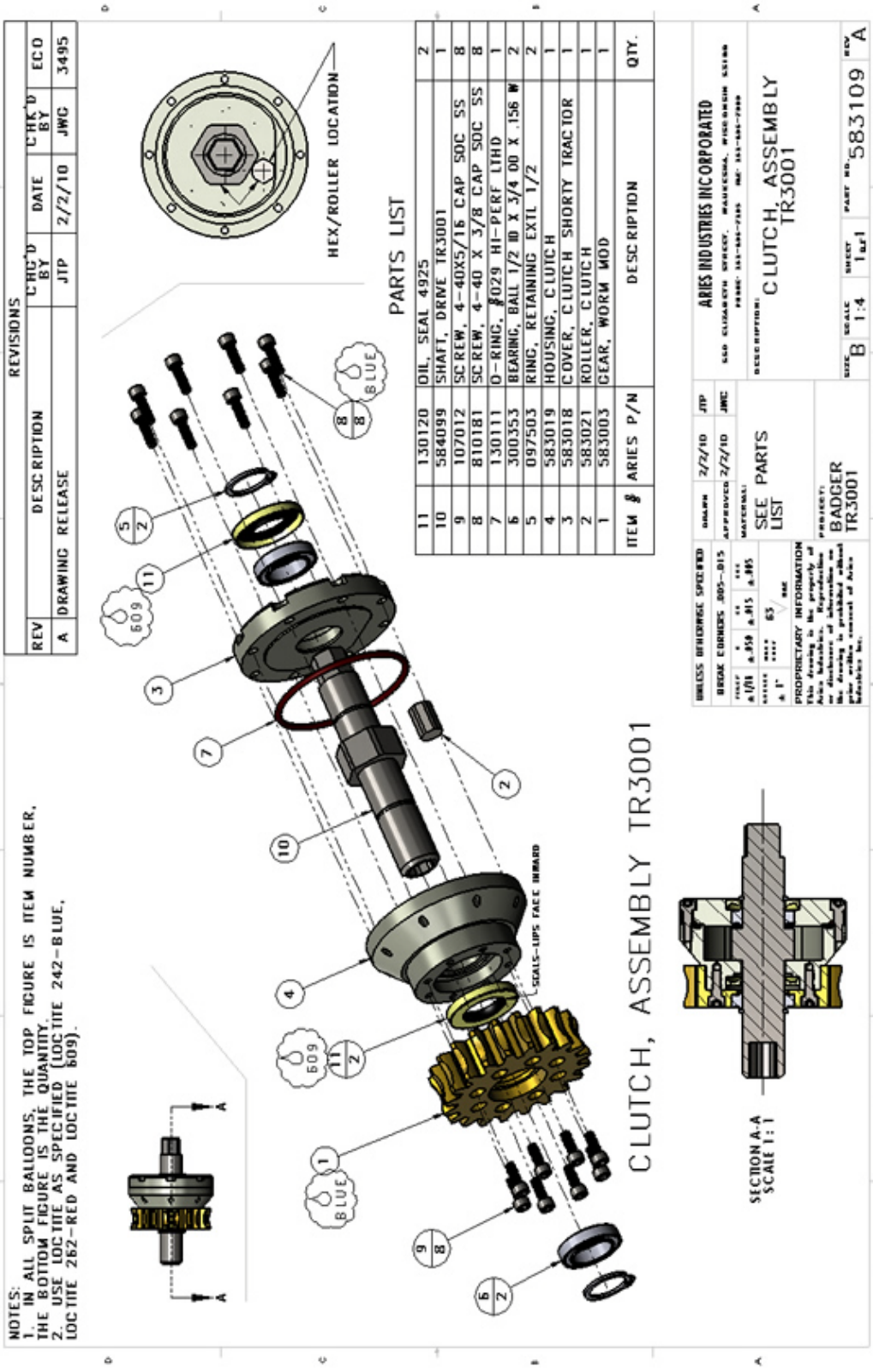
DRAWN 2/22/10 JTP
APPROVED 2/22/10 JWG
MATERIAL: SEE PARTS LIST
PROJECT: BADGER TR3001
ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE: 262-896-7205 FAX: 262-896-7099
DESCRIPTION: TIRE ASSY, 3-3/8 45D REVERSE OFFSET TR31001
SIZE B | SCALE 1:1 | SHEET 1 OF 1 | PART NO. 580167 | REV A


REVISIONS
REV
DESCRIPTION
CHK'D BY
DATE
CHK'D BY
ECO
A
DRAWING RELEASE
JTP
1/18/10
JWC
3495
NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.
2. ASSEMBLE ALL THREADED FASTENERS WITH REMOVABLE (BLUE) LOCKTITE.
4-3/8IN OFFSET ASSEMBLY
BLUE
REFERENCE USES ONLY
ISOMETRIC VIEW NOT TO SCALE
ASSEMBLY 584245
AXLE NUT 105059
ITEM #
ARIES P/N
DESCRIPTION
QTY.
4
584289
WHEEL, INNER SMALL TR3001
1
3
107024
SCREW, 10-32X3/8 CAP SOC SS
5
2
584290
WHEEL, SMALL OUTER TR3001
1
1
584149
TIRE, 4-3/8X5/8IN 65D RUBBER
1
UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
SEE PARTS LIST
PROPRIETARY INFORMATION
TR3001
ARIES INDUSTRIES INCORPORATED
TIRE, 4-3/8 RUBBER 65D
REVERSE OFFSET TR3001
SIZE B
SCALE 1:2
SHEET 1 of 1
PART NO 584245
REV A

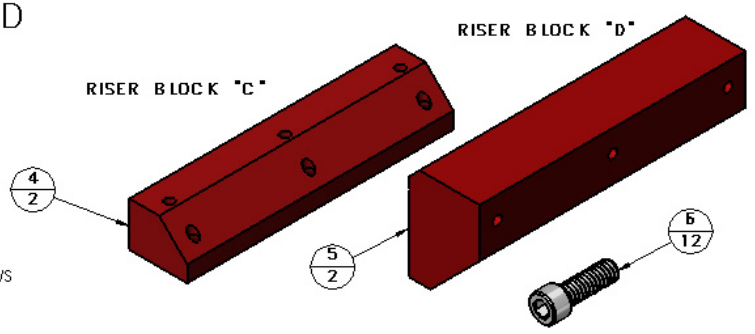

REVISIONS
REV | DESCRIPTION | CHG'D BY | DATE | CHK'D BY | ECO
A | DRAWING RELEASE | JTP | 3/12/10 | JWG | 3569
5 INCH WHEEL ASSEMBLY
P/N 587077
ISOMETRIC VIEW
NOT TO SCALE
PARTS LIST
ITEM # | ARIES P/N | DESCRIPTION | QTY | REFERENCE
5 | 100147 | SCREW, 10-24 X 1 CAP SOC SS | 5 |
4 | 130126 | SEAL, V-RING 950-1.070 TR3000 | 1 |
3 | 587056 | HUB, OUTER, TR3300 | 1 |
2 | 587055 | HUB, INNER TR3300 | 1 |
1 | 584141 | TIRE, 5IN X 1.25IN 60DURO | 1 |
BLUE
NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.
2. ASSEMBLE ALL THREADED FASTENERS WITH REMOVABLE (BLUE) LOCKTITE.
ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE: 262-896-7205 FAX: 262-896-7099
DESCRIPTION:
TIRE ASSY, 5INX1.25IN OFFSET
SEE PARTS LIST
SANEXEN REELS
SCALE 1:4
SHEET 1 OF 1
PART NO. 587077
REV A
SIZE B


REVISIONS
REV | DESCRIPTION | CHG'D BY | DATE | CHK'D BY | ECO
A | DRAWING RELEASE | JTP | 2/2/10 | JWC | 3495
NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.
2. USE LOCTITE AS SPECIFIED (LOCTITE 242-BLUE, LOCTITE 262-RED AND LOCTITE 609).
HEX/ROLLER LOCATION
PARTS LIST
ITEM # | ARIES P/N | DESCRIPTION | QTY.
11 | 130120 | OIL, SEAL 4925 | 2
10 | 584099 | SHAFT, DRIVE TR3001 | 1
9 | 107012 | SCREW, 4-40X5/16 CAP SOC SS | 8
8 | 810181 | SCREW, 4-40 X 3/8 CAP SOC SS | 8
7 | 130111 | O-RING, #029 HI-PERF LTHD | 1
6 | 300353 | BEARING, BALL 1/2 ID X 3/4 OD X .156 W | 2
5 | 097503 | RING, RETAINING EXTL 1/2 | 2
4 | 583019 | HOUSING, CLUTCH | 1
3 | 583018 | COVER, CLUTCH SHORTY TRACTOR | 1
2 | 583021 | ROLLER, CLUTCH | 1
1 | 583003 | GEAR, WORM MOD | 1
SEALS-LIPS FACE INWARD
CLUTCH, ASSEMBLY TR3001
SECTION A-A
SCALE 1:1
ARIES INDUSTRIES INCORPORATED
DESCRIPTION: CLUTCH, ASSEMBLY TR3001
SIZE B | SCALE 1:4 | SHEET 1 of 1 | PART NO. 583109 | REV A
DRAWN 2/2/10 JTP
APPROVED 2/2/10 JWC
MATERIAL: SEE PARTS LIST
PROJECT: BADGER TR3001
PROPRIETARY INFORMATION

NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.

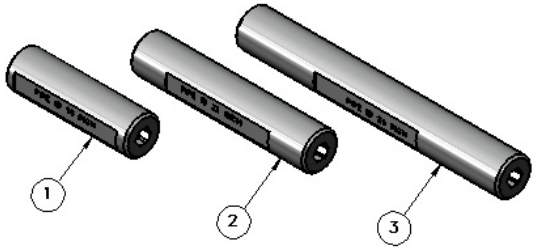
REVISIONS					
REV	DESCRIPTION	CHG'D BY	DATE	CHK'D BY	ECO
A	DRAWING RELEASE	JTP	2/3/10	JWG	3495

TR3001 18", 21" and 24" PIPE ID SPARE PARTS KIT P/N 950240



ISOMETRIC VIEWS NOT TO SCALE

SPARE SCREWS



DRIVE COUPLERS

NOTE:
1. ITEM NO. 2, 3 AND 4 DO NOT FIT OLDER TR3000 TRACTORS.

PARTS LIST

ITEM #	ARIES P/N	DESCRIPTION	QTY.
6	107531	SCREW, 1/4-20 x 3/4 CAP SOC SS	12
5	584123	RISER BLOCK "D"	2
4	584122	RISER BLOCK "C"	2
3	584248	COUPLER, 24" PIPE ID	1
2	584247	COUPLER, 21" PIPE ID	1
1	584246	COUPLER, 18" PIPE ID	1

UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
FRACT ±1/16 | X ±.050 | XX ±.015 | XXX ±.005
ANGLES ±1° | MACH SURF 63 MAX

PROPRIETARY INFORMATION
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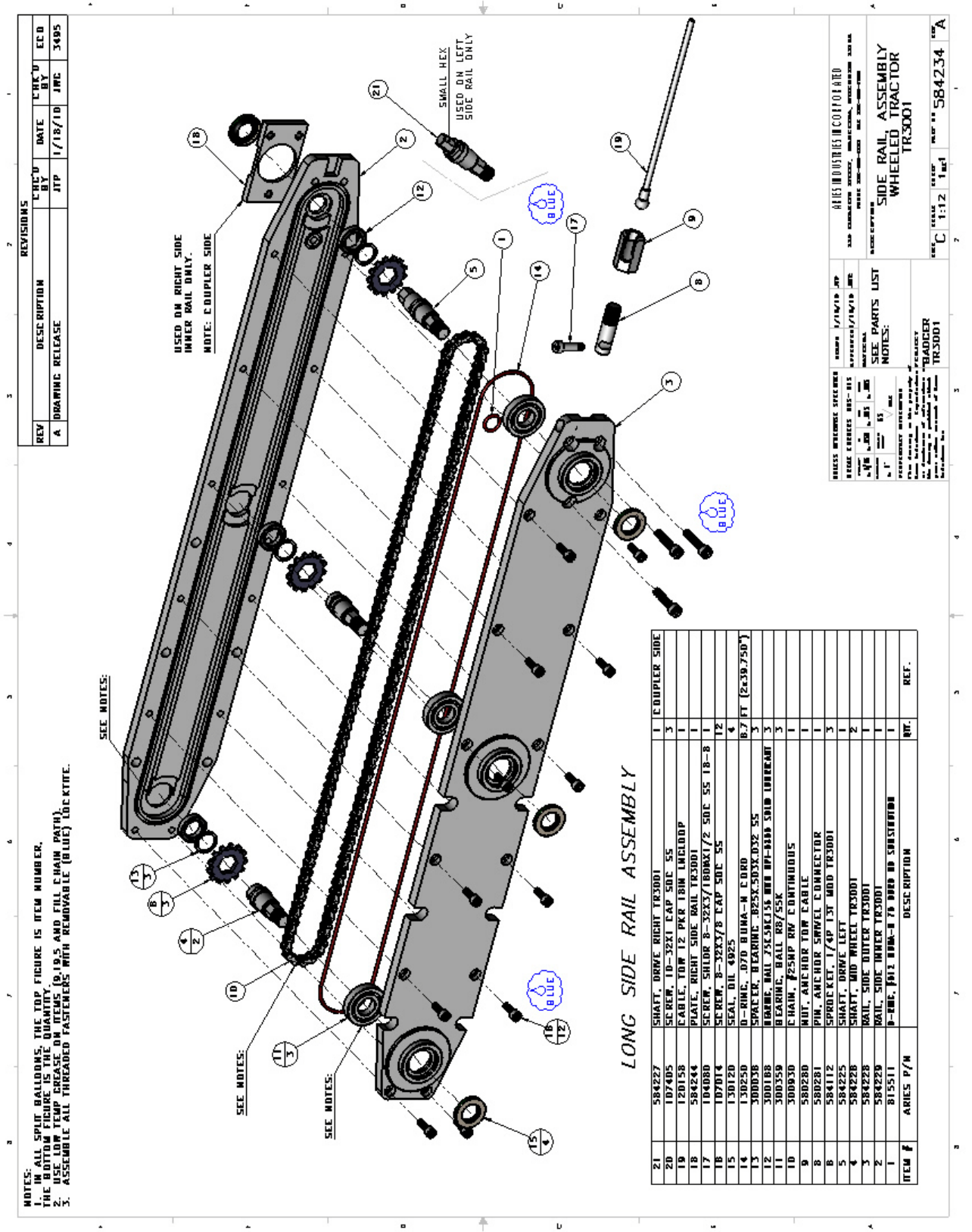
DRAWN 2/3/10 JTP
APPROVED 2/3/10 JWG
MATERIAL: SEE PARTS LIST:
PROJECT: BADGER TR3001

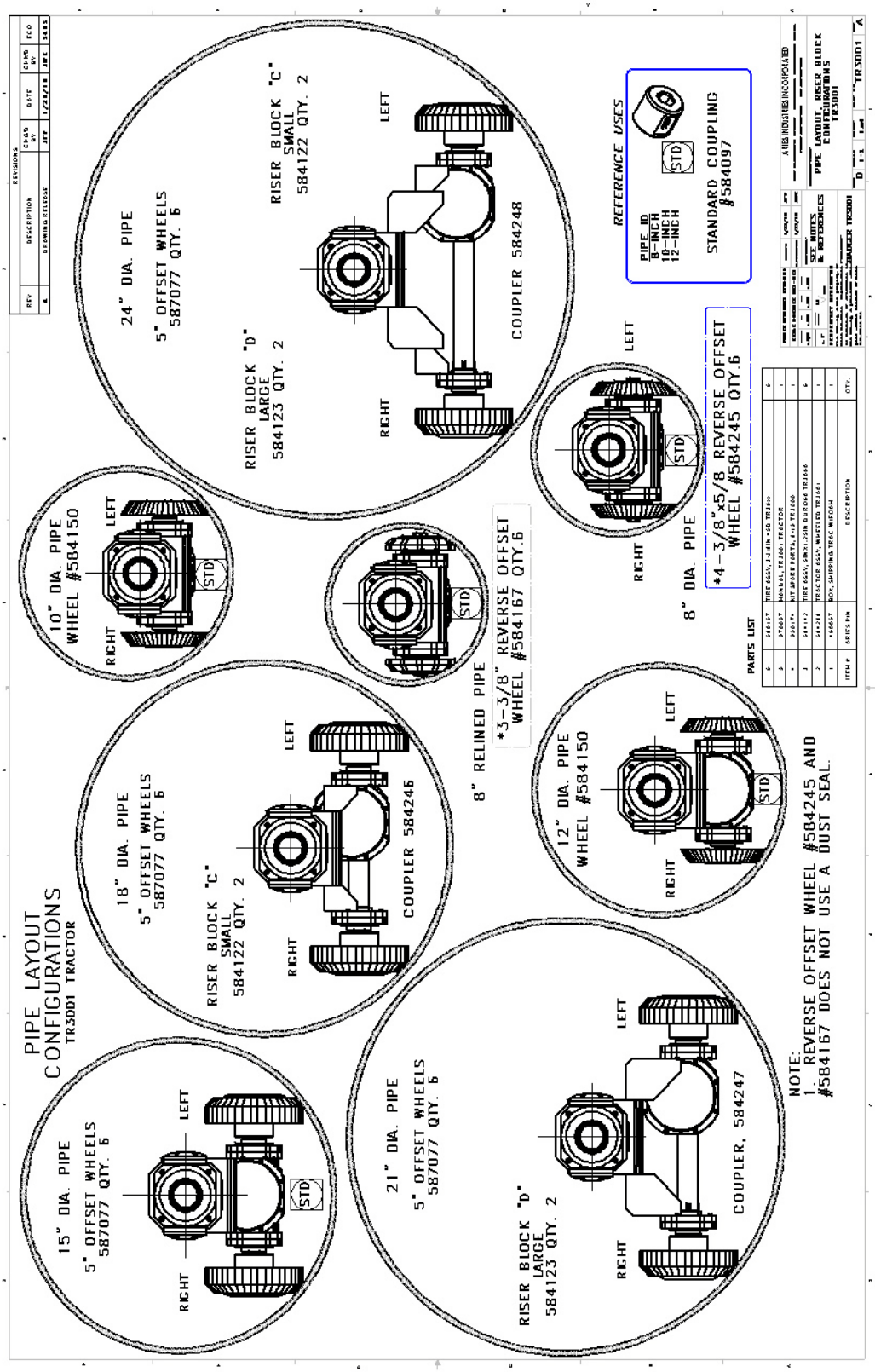
ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE: 262-896-7205 FAX: 262-896-7000

DESCRIPTION: KIT SPARE PARTS, TR3001 18"-24"

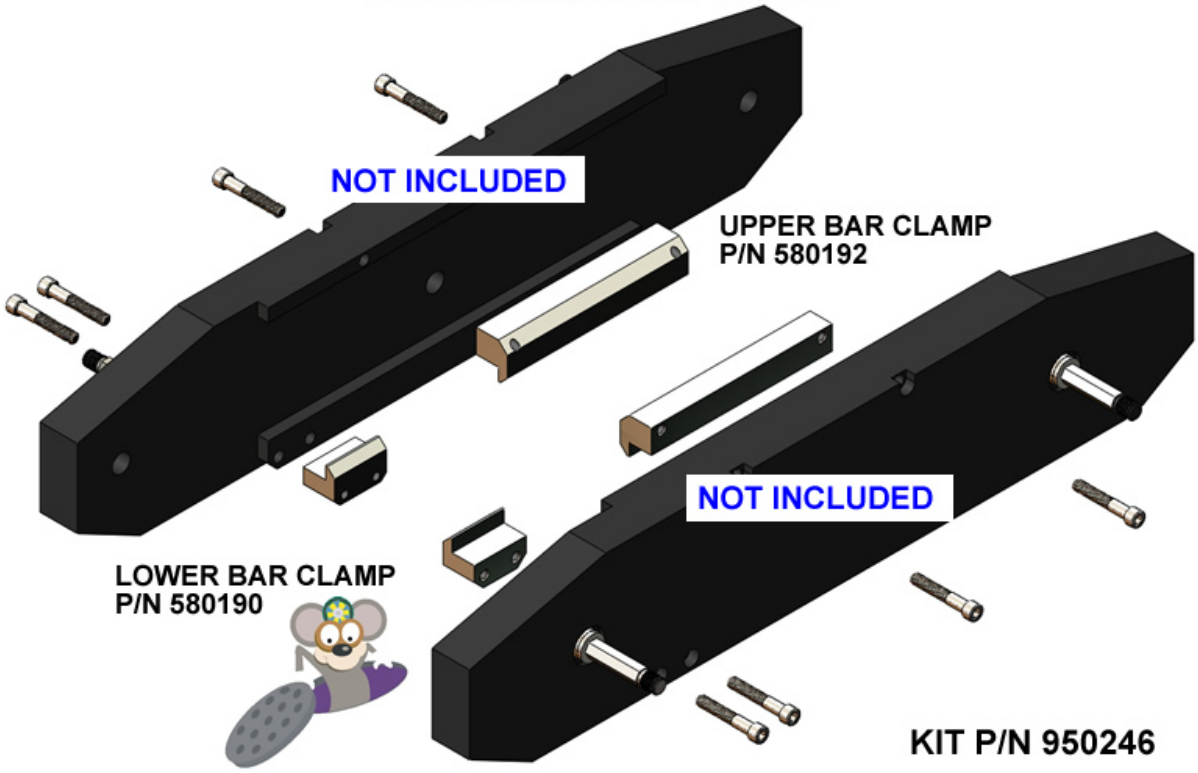
SIZE B | SCALE 2:1 | SHEET 1 OF 1 | PART NO. 950240 | REV A

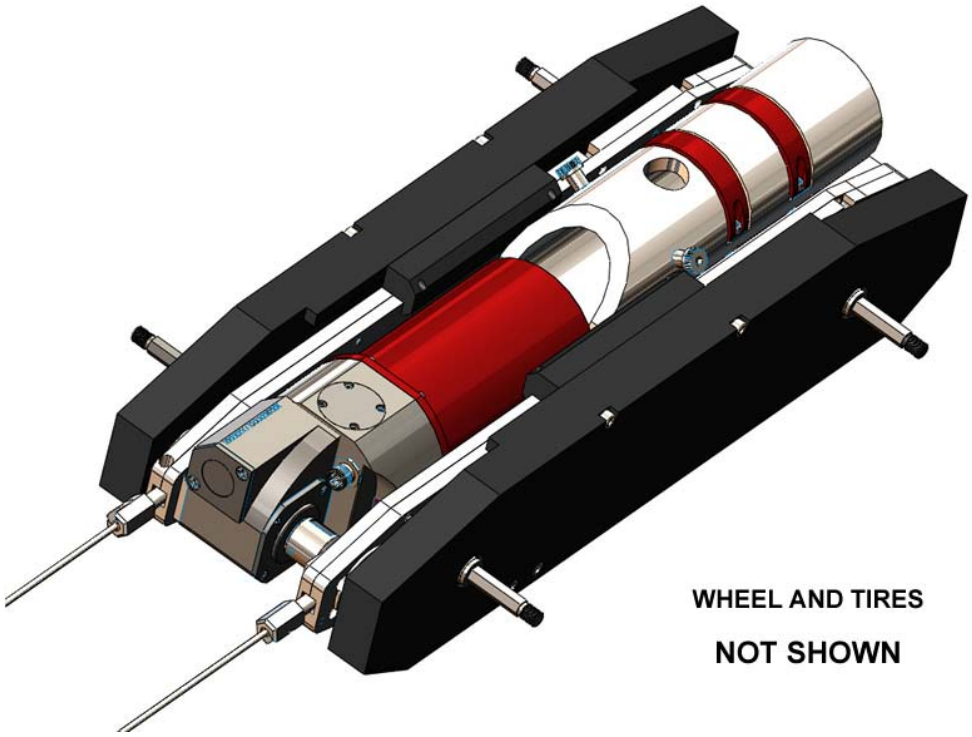
ARIES Industries, Inc.


REVISIONS
REV | DESCRIPTION | CHK'D BY | DATE | CHK'D BY | ECO
A | DRAWING RELEASE | JTP | 1/18/10 | JMC | 3495
NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.
2. USE LOW TEMP GREASE ON ITEMS (9,19,5 AND FILL CHAIN PATH).
3. ASSEMBLE ALL THREADED FASTENERS WITH REMOVABLE (BLUE) LOCKTITE.
USED ON RIGHT SIDE INNER RAIL ONLY.
NOTE: COUPLER SIDE
SMALL HEX
USED ON LEFT SIDE RAIL ONLY
SEE NOTES:
SEE NOTES:
SEE NOTES:
BLUE
LONG SIDE RAIL ASSEMBLY
ITEM # | ARIES P/N | DESCRIPTION | QTY. | REF.
21 | 584227 | SHAFT, DRIVE RIGHT TR3001 | 1 | COUPLER SIDE
20 | 107405 | SCREW, 10-32X1 CAP SOC SS | 3
19 | 120158 | CABLE, TOW 12 PKR 18IN LWCLOOP | 1
18 | 584244 | PLATE, RIGHT SIDE RAIL TR3001 | 1
17 | 104080 | SCREW, SHLDR 8-32X3/1800AXI/2 SOC SS 18-8 | 1
16 | 107014 | SCREW, 8-32X5/8 CAP SOC SS | 12
15 | 130120 | SEAL, OIL 4925 | 4
14 | 130250 | O-RING, .070 BUNA-N CORD | 8.7 FT (2x39.750")
13 | 300038 | SPACER, BEARING .825X.503X.032 SS | 3
12 | 300188 | BEARING, BALL 75K5K6156 WEB BPI-0355 SOLID LUBRICANT | 3
11 | 300359 | BEARING, BALL R8/5SK | 3
10 | 300930 | CHAIN, #25HP RW CONTINUOUS | 1
9 | 580280 | NUT, ANCHOR TOP CABLE | 1
8 | 580281 | PIN, ANCHOR SWIVEL CONNECTOR | 1
7 | 584112 | SPROCKET, 1/4P 15T WOD TR3001 | 3
5 | 584225 | SHAFT, DRIVE LEFT | 1
4 | 584228 | SHAFT, WID WHEEL TR3001 | 2
3 | 584228 | RAIL, SIDE OUTER TR3001 | 1
2 | 584229 | RAIL, SIDE INNER TR3001 | 1
1 | 815511 | O-RING, #12 BUNA-N 70 DURO NO SUBSTITUTION | 1
ARIES INDUSTRIES INCORPORATED
SEE PARTS LIST NOTES:
BADGER TR3001
SIDE RAIL ASSEMBLY WHEELED TRACTOR TR3001
SIZE C | SCALE 1:12 | SHEET 1 of 1 | REV "" | 584234 | A


PIPE LAYOUT CONFIGURATIONS
TR3DD1 TRACTOR
15" DIA. PIPE
5" OFFSET WHEELS
587077 QTY. 6
RIGHT
LEFT
STD
18" DIA. PIPE
5" OFFSET WHEELS
587077 QTY. 6
RISER BLOCK "C"
SMALL
584122 QTY. 2
COUPLER 584246
21" DIA. PIPE
5" OFFSET WHEELS
587077 QTY. 6
RISER BLOCK "D"
LARGE
584123 QTY. 2
COUPLER, 584247
24" DIA. PIPE
5" OFFSET WHEELS
587077 QTY. 6
RISER BLOCK "D"
LARGE
584123 QTY. 2
RISER BLOCK "C"
SMALL
584122 QTY. 2
COUPLER 584248
10" DIA. PIPE
WHEEL #584150
8" RELINED PIPE
*3-3/8" REVERSE OFFSET
WHEEL #584167 QTY.6
12" DIA. PIPE
WHEEL #584150
8" DIA. PIPE
*4-3/8"x5/8 REVERSE OFFSET
WHEEL #584245 QTY.6
REFERENCE USES
PIPE ID
8-INCH
10-INCH
12-INCH
STANDARD COUPLING
#584097
NOTE:
1. REVERSE OFFSET WHEEL #584245 AND
#584167 DOES NOT USE A DUST SEAL.
PARTS LIST
REVISIONS
DESCRIPTION
DRAWING RELEASE
PIPE LAYOUT, RISER BLOCK CONFIGURATIONS
TR3DD1

KIT, UPGRADE CLAMPING BAR WHEEL EXPANSION TR3001





NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.

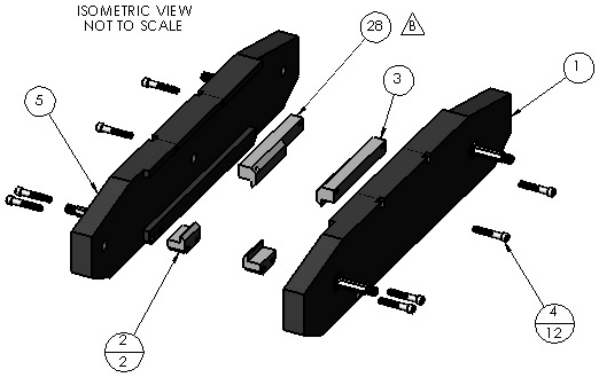
REVISIONS					
REV	DESCRIPTION	CHG'D BY	DATE	CHK'D BY	ECO
A	DRAWING RELEASE	JTP	3/15/10	JWG	3576
B	ADD P/N 580434 (CLAMP RT SIDE)		6/16/10	JWG	3611

PARTS LIST

ITEM #	ARIES P/N	DESCRIPTION	QTY	REFERENCE
28	580434	CLAMP, RIGHT UPPER BAR EXPANSION BADGER TR3001	1	
27	970072	INSTRUCTION, LARGE WHEEL ASSY TR3000/TR3001	1	
26	940031	WRENCH, ALLEN 3/16 LONG	1	SHIP LOOSE
25	584200	CLAMP, LOWER BAR 8IN TIRE EXP KIT TR3100	2	USE ON TR3013
24	584189	TIRE ASSY, 8IN X 2.50-4 TR3000/TR3001	4	NOT SHOWN
23	584177	CLAMP, LOWER BAR 8IN TIRE EXP KIT TR3000	2	USE ON TR3000
22	584176	CLAMP, UPPER BAR 8IN TIRE EXP KIT TR3000	2	
21	584175	GEAR, IDLER 8IN TIRE EXP KIT TR3000/TR3001	4	
20	584174	GEAR, AXLE PINION 8IN TIRE EXP KIT TR3000/TR3001	4	
19	584173	GEAR, AXLE 8IN TIRE EXP KIT TR3000/TR3001	4	
18	584172	SHAFT, AXLE 8IN TIRE EXP KIT TR3000/TR3001	4	
17	584171	COVER, "B" AXLE GEAR 8IN TIRE EXP KIT TR3000/TR3001	2	
16	584170	COVER, "A" AXLE GEAR 8IN TIRE EXP KIT TR3000/TR3001	2	
15	584009	TIRE ASSY, 10IN TR3000/TR3001	4	NOT SHOWN
14	300349	BEARING, BALL 17X26X5 SEAL 6803	12	
13	300348	BEARING, FLGD 3/8X1/2X1/4 BRZ	8	
12	130399	O-RING, 3.346X.070 BUNA-N	4	
11	107532	SCREW, 1/4-20X1-1/2 CAP SOC SS	12	
10	107402	SCREW, 10-32X1/2 CAP SOC SS	16	
9	106029	BEARING, THRUST 1/2IDX1X1/16 BRZ	4	
8	105059	NUT, FLANGE 3/8-24 SS SERRATED TR3000/TR3001	4	
7	097632	PIN, DOWEL 3/8X7/8 STL	4	
6	097621	PIN, DOWEL 3/32X5/8 STL	4	
5	584168	FRAME, RIGHT SIDE 8IN & 10IN TIRE EXP TR3000/TR3001	1	
3	580192	CLAMP, RIGHT UPPER BAR EXPANSION BADGER TR3001	1	USE ON TR3001
2	580190	CLAMP, LOWER BAR EXPANSION KIT TR3001	2	USE ON TR3001
1	584169	FRAME, LEFT SIDE 8IN & 10IN TIRE EXP TR3000/TR3001	1	

PIPE DIAMETERS 15"ID - 48"ID

ISOMETRIC VIEW
NOT TO SCALE



WHEEL AND TIRES
(NOT SHOWN)

UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
FRACT. ±1/16 | .X ±.050 | .XX ±.015 | .XXX ±.005
ANGLES ± 1° | MACH. SURF. 63 √ MAX.

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DRAWN 3/15/10 JTP
APPROVED 3/15/10 JWG
MATERIAL: SEE PARTS LIST
PROJECT: BADGER TR3001

ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE: 262-896-7205 FAX: 262-896-7099

DESCRIPTION: WHEEL EXPAND ASSY, 8IN & 10IN BADGER TR3001

SIZE B | SCALE 1:8 | SHEET 1 OF 1 | PART NO. 580182 | REV B

Aries Industries, Inc.

NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.

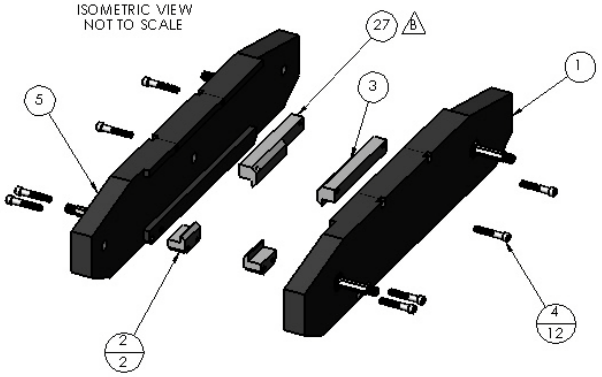
REVISIONS					
REV	DESCRIPTION	CHG'D BY	DATE	CHK'D BY	ECO
A	DRAWING RELEASE	JTP	3/15/10	JWG	3576
B	ADD P/N 580434	JTP	6/16/10	JWG	3611

PIPE DIAMETERS 15"ID - 36"ID

PARTS LIST

ITEM #	ARIES P/N	DESCRIPTION	QTY	REFERENCE
27	580434	CLAMP, RIGHT UPPER BAR EXPANSION BADGER TR3001	1	
26	970072	INSTRUCTION, LARGE WHEEL ASSY TR3000/TR3001	1	
25	940031	WRENCH, ALLEN 3/16 LONG	1	SHIP LOOSE
24	584200	CLAMP, LOWER BAR 8IN TIRE EXP KIT TR3100	2	USE ON TR3013
23	584189	TIRE ASSY, 8IN X 2.50-4 TR3000/TR3001	4	NOT SHOWN
22	584177	CLAMP, LOWER BAR 8IN TIRE EXP KIT TR3000	2	USE ON TR3000
21	584176	CLAMP, UPPER BAR 8IN TIRE EXP KIT TR3000	2	
20	584175	GEAR, IDLER 8IN TIRE EXP KIT TR3000/TR3001	4	
19	584174	GEAR, AXLE PINION 8IN TIRE EXP KIT TR3000/TR3001	4	
18	584173	GEAR, AXLE 8IN TIRE EXP KIT TR3000/TR3001	4	
17	584172	SHAFT, AXLE 8IN TIRE EXP KIT TR3000/TR3001	4	
16	584171	COVER, "B" AXLE GEAR 8IN TIRE EXP KIT TR3000/TR3001	2	
15	584170	COVER, "A" AXLE GEAR 8IN TIRE EXP KIT TR3000/TR3001	2	
14	300349	BEARING, BALL 17X26X5 SEAL 6803	12	
13	300348	BEARING, FLGD 3/8X1/2X1/4 BRZ	8	
12	130399	O-RING, 3.346X.070 BUNA-N	4	
11	107532	SCREW, 1/4-20X1-1/2 CAP SOC SS	12	
10	107402	SCREW, 10-32X1/2 CAP SOC SS	16	
9	106029	BEARING, THRUST 1/2IDX1X1/16 BRZ	4	
8	105059	NUT, FLANGE 3/8-24 SS SERRATED TR3000/TR3001	4	
7	097632	PIN, DOWEL 3/8X7/8 STL	4	
6	097621	PIN, DOWEL 3/32X5/8 STL	4	
5	584168	FRAME, RIGHT SIDE 8IN & 10IN TIRE EXP TR3000/TR3001	1	
3	580192	CLAMP, RIGHT UPPER BAR EXPANSION BADGER TR3001	1	USE ON TR3001
2	580190	CLAMP, LOWER BAR EXPANSION KIT TR3001	2	USE ON TR3001
1	584169	FRAME, LEFT SIDE 8IN & 10IN TIRE EXP TR3000/TR3001	1	

ISOMETRIC VIEW
NOT TO SCALE



WHEEL AND TIRES
(NOT SHOWN)

UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
FRACT. ± 1/16 | .X ±.050 | .XX ±.015 | .XXX ±.005
ANGLES ± 1° | MACH. SURF. 63 MAX.

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DRAWN 3/15/10 JTP
APPROVED 3/15/10 JWG
MATERIAL: SEE PARTS LIST
PROJECT: BADGER TR3001

ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE: 262-896-7205 FAX: 262-896-7099

DESCRIPTION: WHEEL EXPAND ASSY, 8IN BADGER TR3001

SIZE B | SCALE 1:8 | SHEET 1 OF 1 | PART NO. 584298 | REV B

Aries Industries, Inc.

NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.

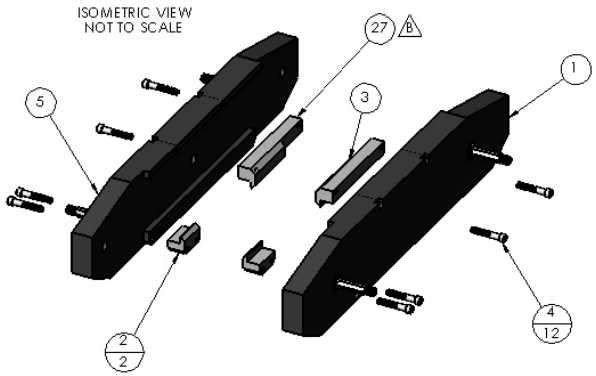
REVISIONS					
REV	DESCRIPTION	CHG'D BY	DATE	CHK'D BY	ECO
A	DRAWING RELEASE	JTP	3/15/10	JWG	3576
B	ADD P/N 580434	JTP	6/16/10	JTP	3611

PIPE DIAMETERS 15"ID - 48"ID

PARTS LIST

ITEM #	ARIES P/N	DESCRIPTION	QTY	REFERENCE
B 27	580434	CLAMP, RIGHT UPPER BAR EXPANSION BADGER TR3001	1	
26	970072	INSTRUCTION, LARGE WHEEL ASSY TR3000/TR3001	1	
25	940031	WRENCH, ALLEN 3/16 LONG	1	SHIP LOOSE
24	584200	CLAMP, LOWER BAR 8IN TIRE EXP KIT TR3100	2	USE ON TR3013
23	584177	CLAMP, LOWER BAR 8IN TIRE EXP KIT TR3000	2	USE ON TR3000
22	584176	CLAMP, UPPER BAR 8IN TIRE EXP KIT TR3000	2	
21	584175	GEAR, IDLER 8IN TIRE EXP KIT TR3000/TR3001	4	
20	584174	GEAR, AXLE PINION 8IN TIRE EXP KIT TR3000/TR3001	4	
19	584173	GEAR, AXLE 8IN TIRE EXP KIT TR3000/TR3001	4	
18	584172	SHAFT, AXLE 8IN TIRE EXP KIT TR3000/TR3001	4	
17	584171	COVER, "B" AXLE GEAR 8IN TIRE EXP KIT TR3000/TR3001	2	
16	584170	COVER, "A" AXLE GEAR 8IN TIRE EXP KIT TR3000/TR3001	2	
15	584009	TIRE ASSY, 10IN TR3000/TR3001	4	NOT SHOWN
14	300349	BEARING, BALL 17X26X5 SEAL 6803	12	
13	300348	BEARING, FLGD 3/8X1/2X1/4 BRZ	8	
12	130399	O-RING, 3.346X.070 BUNA-N	4	
11	107532	SCREW, 1/4-20X1-1/2 CAP SOC SS	12	
10	107402	SCREW, 10-32X1/2 CAP SOC SS	16	
9	106029	BEARING, THRUST 1/2IDX1X1/16 BRZ	4	
8	105059	NUT, FLANGE 3/8-24 SS SERRATED TR3000/TR3001	4	
7	097632	PIN, DOWEL 3/8X7/8 STL	4	
6	097621	PIN, DOWEL 3/32X5/8 STL	4	
5	584168	FRAME, RIGHT SIDE 8IN & 10IN TIRE EXP TR3000/TR3001	1	
3	580192	CLAMP, RIGHT UPPER BAR EXPANSION BADGER TR3001	1	USE ON TR3001
2	580190	CLAMP, LOWER BAR EXPANSION KIT TR3001	2	USE ON TR3001
1	584169	FRAME, LEFT SIDE 8IN & 10IN TIRE EXP TR3000/TR3001	1	

ISOMETRIC VIEW
NOT TO SCALE



WHEEL AND TIRES
(NOT SHOWN)

UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
FRACT. ±1/16 | .X ±.050 | .XX ±.015 | .XXX ±.005
ANGLES ± 1° | MACH. SURF. 63 MAX.

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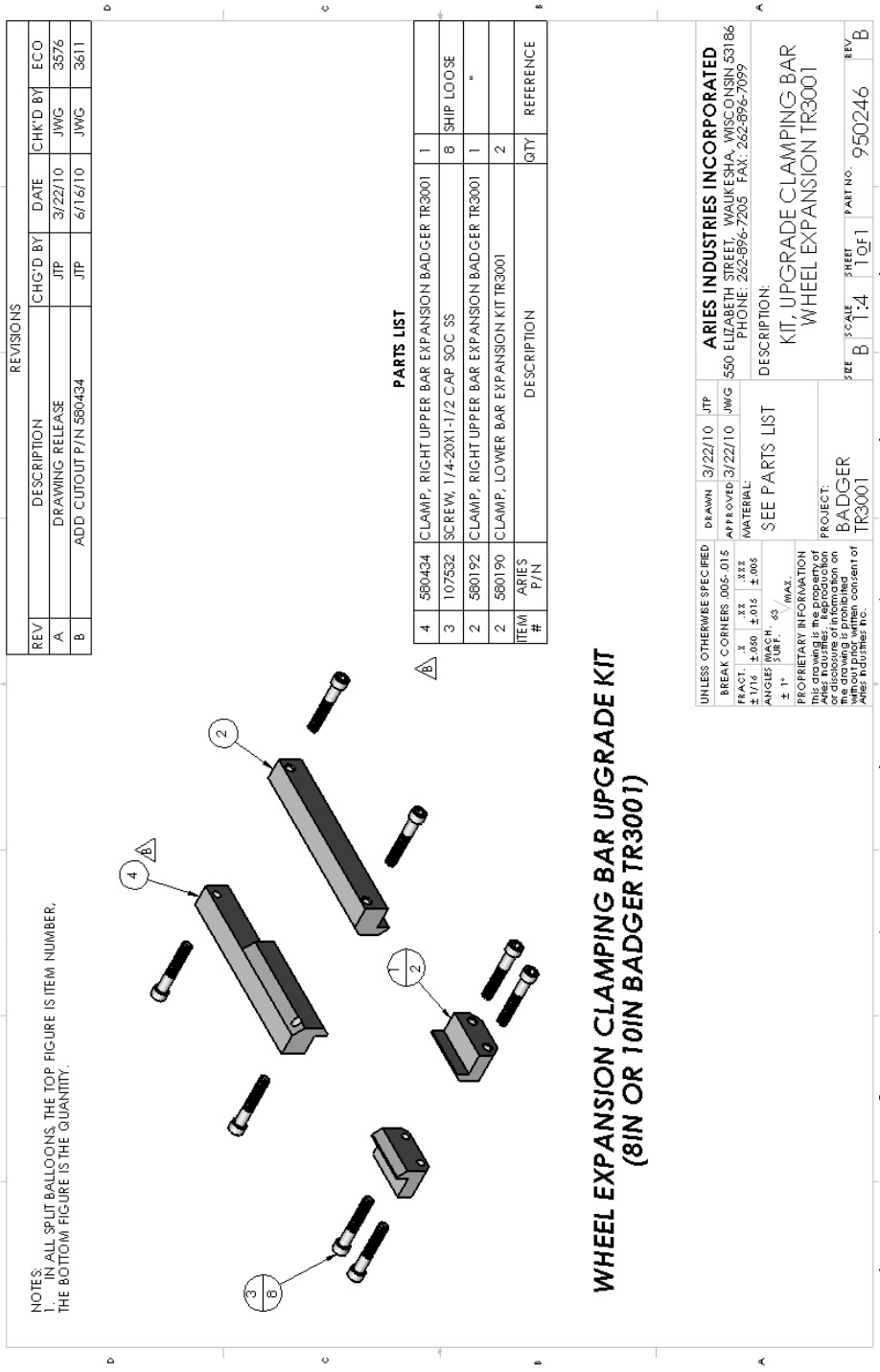
DRAWN 3/15/10 JTP
APPROVED 3/15/10 JWG
MATERIAL: SEE PARTS LIST
PROJECT: BADGER TR3001

ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE: 262-896-7205 FAX: 262-896-7099

DESCRIPTION: WHEEL EXPAND ASSY, 10IN BADGER TR3001

SIZE B | SCALE 1:8 | SHEET 1 OF 1 | PART NO. 584299 | REV B

Aries Industries, Inc.



REVISIONS

REV	DESCRIPTION	CHG'D BY	DATE	CHK'D BY	ECO
A	DRAWING RELEASE	JTP	3/22/10	JWG	3576
B	ADD CUTOUT P/N 580434	JTP	6/16/10	JWG	3611

NOTES:
1. IN ALL SPLIT BALLOONS, THE TOP FIGURE IS ITEM NUMBER, THE BOTTOM FIGURE IS THE QUANTITY.

PARTS LIST

ITEM #	ARIES P/N	DESCRIPTION	QTY	REFERENCE
4	580434	CLAMP, RIGHT UPPER BAR EXPANSION BADGER TR3001	1	
3	107532	SCREW, 1/4-20X1-1/2 CAP SOC SS	8	SHIP LOOSE
2	580192	CLAMP, RIGHT UPPER BAR EXPANSION BADGER TR3001	1	"
2	580190	CLAMP, LOWER BAR EXPANSION KIT TR3001	2	

WHEEL EXPANSION CLAMPING BAR UPGRADE KIT
(8IN OR 10IN BADGER TR3001)

UNLESS OTHERWISE SPECIFIED
BREAK CORNERS .005-.015
FRACT. ± 1/16 | .X ±.050 | .XX ±.015 | .XXX ±.005
ANGLES ± 1° | MACH. SURF. 63 MAX.
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DRAWN 3/22/10 JTP
APPROVED 3/22/10 JWG
MATERIAL: SEE PARTS LIST
PROJECT: BADGER TR3001

ARIES INDUSTRIES INCORPORATED
550 ELIZABETH STREET, WAUKESHA, WISCONSIN 53186
PHONE: 262-896-7205 FAX: 262-896-7099

DESCRIPTION:
KIT, UPGRADE CLAMPING BAR
WHEEL EXPANSION TR3001

SIZE B | SCALE 1:4 | SHEET 1 OF 1 | PART NO. 950246 | REV B

UPGRADE KIT P/N950241
Optional / Equipment

1. #950246 Clamping Bar Kit TR3001.

Note: Clamping bar kit P/N 950246 modifies existing expand assemblies P/N 584002, 584010 and 584011 for use on the TR3001.

2. #584298 Wheel Expand Assembly, 8in TR3001
3. #584299 Wheel Expand Assembly, 10in TR3001.
4. #580182 Wheel Expand Assembly, 8in – 10in TR3001.
5. #950240 kit, Spare Parts 18-24 Pipe ID TR3001.
6. #587077 Tire Assy, 5in X 1 1/4in Offset Hub.
7. #950174 8-15 Spare Parts and Tools Kit TR3000/TR3001

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